

CONTINENTAL TRADING PRICES: AUSTRIA S.15; BELGIUM F.20; DENMARK K.2.75; FRANCE F.2.28; GERMANY DM1.70; ITALY L.300; NETHERLANDS F.1.50; NORWAY K.2.75; PORTUGAL Esc.15.00; SPAIN Ptas.30; SWEDEN Kr.2.50; SWITZERLAND Fr.1.50.

NEWS SUMMARY

ERAL
secrets
ilot
wanted
oney'

granted former RAF V-8 pilot with a great deal of money to try to make money in the U.S. He is expected to leave for the U.S. in a few days.

Attorney-General, Sir Silkin, opening the case against a former F.11. Alstair, on 22, on five charges of conspiracy to communicate with the Russians, said he did not explain why the Soviet of the U.S. after the war, but would use their command.

Far from being a spy, it was a "humdrum and a story," he said. The secrets referred to British defence and their disclosure could have been "damaging" in time. So critical were they, when the Soviet crews had memorised them.

his defence, it was stated that the man, who pleaded not guilty, did not dispute the facts that he acted under duress and fear of Soviet officials.

ds defeat
Government
The Government was defeated by 34 in the House of Commons last night when the Liberal amendment to the Government's Employment Bill was passed.

scandal call
Justice Alan King-Hamilton yesterday called on Westminster to do all it could to clear the "scandalous situation" surrounding the announcement in London's West End, a speaking after sentencing on to up to six and a half for homosexual offences.

ut ceasefire
Christians and Muslims last night reported to have agreed to observe the Beirut truce after yet another day of violence. Efforts were continuing with Syrian mediator, Khaddam, to save the constitution which is no longer balanced by the interests of the two sides.

as curb
hodesian Government, worried about the country's future, imposed controls on foreign currency coming into the country. Recent criticism of the language South African papers has upset the White House.

money probe
Prime Minister has asked Lord Lever to investigate the raising of money for the from industry, commerce and the trade unions.

le and places
Jordan Richardson, Gov. of the Bank of England, on a visit to Hungary.

ate Select Committee
ence is to investigate the senior Nixon White House official ordered the nation of columnist Jackson.

elderly people
on an Stonehenge were when their coach was in with a lorry near the bridge.

BUSINESS
Gold falls
\$3: new
low for
sterling

GOLD and gold shares closed lower after an earlier rise. The price of South African's 17.5 per cent. Gold was down another 37 at \$1351, the Gold Mines Index lost 3.7 to 336.9. The DOLLAR reached a new high for this year against the major European currencies.

STERLING lost 93 points, closing at a low of \$2.0715, after falling to \$2.0705. Its weighted

fall was steady at 27.5 per cent. while the dollar improved to 1.49 (1.73) per cent.

EQUITIES fell back after an active start and the FTSE share index closed only 1.1 up at 344.7, after 339.1.

GILTS were quiet. Short-term rates were a shade firmer but long-term rates fell.

WALL STREET closed down at \$20.46 on profit-taking after the two previous sessions of gains.

SWISS FRANC will join the West European currency "snake," it was agreed in principle. But technical problems are delaying the move.

Ford proposes
energy body
PRESIDENT FORD proposes a \$100m. Government corporation to develop energy supplies and make the U.S. independent of OPEC by 1985. Back Page

RANK XEROX is increasing rental on copiers and duplicators by 10 per cent. from next week. The U.S. parent, Xerox Corporation, plans to cut prices from the New Year. The U.S. decision complies with the recent anti-trust settlement with the Federal Trade Commission.

NATIONAL Iranian Oil has bought the Abbey House site opposite Westminster Abbey for £7.5m. from Capital and Counties Property. Back Page

BSC will break even in the next financial year, predicts chairman Sir Monty Finniston. He says losses for the current year will be about £25m. Page 12

ROLLS-ROYCE (1971) and Pratt and Whitney are waiting for clearance from the U.S. Justice Department to co-operate on new aero-engine programmes. Page 10

COMPANY RESULTS
JOHN LAING first-half pre-tax profits rose to £5,974m. (£5,528m.). Interim dividend is steady at 8.5p. Page 23 and Lex

BOOKER McCONNELL first-half pre-tax profits rose to £6,939m. (£6,904m.). Chairman expects growth to continue. Page 30 and Lex

13 EXPLOSIONS ROCK ULSTER

Bombings as Provos end truce with RUC

BY GILES MERRITT: BELFAST, Sept. 22

A CONCERTED bombing campaign—by this evening the number of explosions had reached 13—has followed on the provocation of the IRA's statement that it no longer considers the terms of its nine-month-old ceasefire, in effect, to be the RUC.

The last four explosions disrupted Central Belfast in the north-west of the Protestant Sandy Row area—and the toll of wounded rose to a dozen, including two RUC policemen. Several more devices were also detonated by Army experts during the day.

This afternoon a train going to Newry was hijacked and blown up after the crew had been thrown off.

The Government's security policies in Northern Ireland are to remain unchanged in spite of today's bombing campaign, according to a Stormont Castle spokesman. The bombings are being described here as Ulster's worst day of violence this year.

In Dublin, the Provisional IRA's Army Council has reportedly endorsed the Belfast Brigade's statement, that in answer to RUC "harassment," members of the police force will no longer enjoy any form of immunity under the terms of the ceasefire.

Speculation
To all as many as 600 lbs. of explosive were used in today's bomb attacks, and the degree of organisation required to trigger the initial wave of explosions at around 9 this morning, followed by further widespread but sporadic bombings throughout the day, points strongly to ex-

perienced Provisional IRA "Active Service Units."

The IRA's motives for resuming hostilities, the fall short of an open declaration that the ceasefire is at an end are not clear.

It is, conceivably, even a way of refuting suggestions that the Dublin Army Council no longer has firm control of the IRA and that the recent London bombings were carried out by militant

in Catholic areas in return for an end both to attacks on security force personnel and urban guerrilla activities in general.

For the IRA to state that the RUC is no longer covered by the arrangement—even though it is an integral part of the security operation in Ulster—clearly invites Mr. Rees to respond with more intense security activity, including the resumption of "screening" people at random in four-hour interrogation sessions and dawn army-police raids on known Republican strongholds. Furthermore, the two explosions to-day so far claimed by the Provos were both aimed at the security forces: two RUC men were seriously injured in Duncannon when their police post was blown up by a time bomb, while an Army border post near Newry was damaged by a lorry bomb.

In addition to Northern Ireland Opposition spokesman Mr. Airey Neave's demands for a security clampdown, Mr. Rees must now be awaiting the inevitable storm of loyalist anger. The Secretary of State no doubt has hopes that his refusal to retaliate would result in a gradual easing of the new tension, whereas any strong reaction could endanger what remains of the ceasefire and lead to a determined mainland bombing campaign.

But following last night's explosion in London how long he can maintain this stance remains to be seen.

With to-morrow the deadline for Ulster's political parties to hand in their Convention reports outlining their views on devolved government, the reasonable

Continued on Back Page

Portman Hotel bomb blast
A BOMB exploded in London's West End last night, injuring a policeman and two other men, writes Lorne Barling.

No warning was given for the blast outside the Portman Hotel, and no responsibility was claimed immediately. The police officer was taken to hospital with suspected ear damage but was later released.

Police suspected that another bomb could have been planted nearby but nothing was found during a search. Windows at the hotel restaurants on the ground and first floors were shattered but no one inside was injured.

Police later issued a description of a man said to have been seen near the bomb shortly before it exploded.

He is described as 5 feet 8 inches tall, wearing a sports coat, and with long hair and an unkempt beard.

Bomb squad officers also went to two other leading London hotels, the Savoy and the Hilton, which were evacuated after bomb warnings.

The Portman was the target of another attack in January this year when automatic rifle fire from a passing car hit the hotel entrance.

splitter groups being in defiance of its authority.

Whatever the reasons, Stormont Castle has apparently decided against reacting to the bombings with a major security clampdown. Yesterday's statement by the Provisional IRA's Army Council, that in answer to RUC "harassment," members of the police force will no longer enjoy any form of immunity under the terms of the ceasefire, has pushed the Provos into a show of strength.

Equally, the current political crisis in Ulster is prompting them to exploit the vacuum that has resulted from the breakdown of negotiations between the United Ulster Unionist Coalition and the mainly Catholic Social Democratic and Labour Party and the consequent split in the Loyalist ranks on the issue of emergency government.

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Statement on boost for jobs this week

BY ROY ROGERS, LABOUR CORRESPONDENT

THE GOVERNMENT'S package of measures to curb rising unemployment, now running at 1.25m., is expected later this week in response to mounting pressure from the trade unions.

In a day full of activity, the Prime Minister and his senior colleagues yesterday met trade union leaders on the TUC-Labour Party Liaison Committee, where Mr. Wilson promised that Ministers would be discussing the unemployment problem within "hours and not days."

Soon after that meeting, at which Mr. Denis Healey, Chancellor of the Exchequer, said he hoped to announce Government measures later in the week, the Cabinet went into session for some two and three-quarter hours, after which leading Ministers had more discussions.

Conference
The Government is therefore poised to unveil its much heralded measures before the Labour Party conference opens next week. While the unions have welcomed this bringing forward of the announcement, which the Government had wanted to delay until it had time to study next month's unemployment figures, no major surprises are anticipated in the package which is designed purely as a short-term limited exercise.

It seems unlikely that the Government is prepared to fall in with the TUC's demand for selective import controls, particularly on Japanese cars and electronics and on textile imports from other Asian and European manufacturers.

An item far more likely to figure in the Government measures is an extension of the temporary employment subsidies scheme which certain companies can be paid £10 a week

for a period of three months for every worker who would otherwise be made redundant. So far some 2,300 workers have been kept in employment under this scheme, many of them in the North West, with Scotland, Yorkshire and Humberside also high up the list. Some easing of the strict conditions, which include full order books, may be in the offing.

Other measures which the Government is expected to implement are a job creation programme, possibly costing around £20m., which would provide socially useful employment in depressed areas and a recruitment subsidy scheme under which employers taking on school leavers would receive £5 a week from the State.

Last night, Mr. Jack Jones, general secretary of the Transport and General Workers' Union, declared himself satisfied that the Government intended to cut the head off the growing problem of unemployment this winter. Mr. David Basnett, general secretary of the General and Municipal Workers' Union, described the meeting with Ministers as "very encouraging."

Both played a leading role in getting TUC support for the Government's counter-inflation measures policy limiting increases to £6 a week on which the Government is pinning its hopes of defeating inflation and further reducing unemployment in the longer term.

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£ in New York
Sept. 22 Previous
Spot \$2.0704/072 \$2.0610/02
1 month 0.02-0.03 0.01-0.02 0.01-0.02
3 months 1.73-1.68 1.72-1.67 1.72-1.67
12 months 5.34-5.10 5.10-4.00 4.00

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Mrs. Thatcher hails virtues of the market economy

BY JOHN BOURNE, LOBBY EDITOR

MRS. MARGARET THATCHER, Conservative Leader, last night made one of her most outspoken speeches yet on the virtues of the "Market economy."

Among other things, she praised the patron saint of the classical theories of supply and demand, Adam Smith, who, she said, had heralded the end of feudalism and "had released all the innate energy of private initiative and enterprise which enabled wealth to be created on a scale never before contemplated."

In a long lecture at the Roosevelt University, Chicago, Mrs. Thatcher made it clear that her first political priority was to cure Britain's "quite intolerable" rate of inflation, even though there was an official unemployment rate which for the British was high.

"With a 4 per cent. growth. Yet what do we find? We have already primed the pump. The economy is bearing its maximum degree of public expenditure consistent with a democratic society."

Attempts by British Governments to intervene in the business cycle to smooth out its peaks and troughs had not been very successful, she said. The tempta-

tion had then been to try to control more and more of the economic system, what had been called the commanding heights.

"This increasingly leads to a reduction in the efficiency of the system and eventually to the commanding heights."

"The reasons are complex, but it has taken us a long time to realise as a nation that unless we elevate the reduction of inflation to a first priority in policy, moral values, our social and political institutions and the very fabric of society will fall apart."

It was not surprising, she said, that she found British people saying "Get the Government out of our hair" and "Stop taking too much of our incomes for the social wage."

On inflation, she said this was a pernicious evil, capable of destroying any society built on a system where freedom was paramount. "No democracy has survived a rate of inflation consistently higher than 20 per cent. We saw the result of this process in Germany in the inter-war period, and we see it in some Latin American republics today."

"We must never let inflation get out of hand again, yet the prospect of world economic recovery brings with it the possibility of increasing inflation. Some have warned that next time it will be extremely difficult to control, and the Western world may well experience super-inflation unless we are singled-minded about its control."

Also in the U.S. yesterday Mr. Denis Healey, the Chancellor of the Exchequer, attacked Mrs. Thatcher's theories in an interview in Newsweek.

He said: "If you look at the experience of countries that have the sort of relationship between Government and business that I would like in Britain, they have a much better performance."

The fact is, I think, the concept of a pure market economy is one that has very few adherents outside of America, Germany and Mrs. Thatcher.

Mr. Healey said the real problem was that British businessmen tended to insist on a very high rate of return on capital on a very small turnover.

"That's the recipe for industrial decline. We've got to have a high-output, high-wage economy that gives business an adequate profit."

At the beginning of the month Burmah was quoted at 28p, only 1p above the year's low.

There has been an clear explanation for the subsequent rise. Burmah itself emphasised yesterday that the announcement of Reynolds' feasibility study was an indication that discussions are at an early stage. The feasibility study is not expected to take long to complete, however.

Burmah pointed out that such announcements often have to be made earlier than in the U.K. because of the disclosure requirements of the Securities and Exchange Commission. It did not preclude other interested parties from entering into similar negotiations.

Indeed, Burmah will probably be hoping that the announcement will stir-up more active interest in purchasing its U.S. oil operations. Mr. Alastair Down, the chairman, said in May that three companies had expressed an interest, but since then the company has made no statements on the situation.

There has been some concern that prospective buyers might delay their approaches until towards the year-end when the Bank of England's guarantees of Burmah's U.S. borrowings run out. It seems unlikely, however, that the Government would want Burmah to become a forced seller of its U.S. oil interests.

Independent Oil, which it acquired in 1970.

American Independent produces about 82,000 barrels of oil per day in Kuwait and is a partner in the Iran consortium, from which it derives about 43,000 barrels per day.

American Independent has a refinery and a de-sulphurisation plant in Kuwait and is involved in oil and gas exploration projects in Paraguay and the Gulf of Mexico, though none of these tracts is producing as yet.

Reynolds has a 31 per cent share of the domestic U.S. cigarette market, and tobacco sales account for almost two-thirds of its sales and roughly half its profits. It was, however, one of the first big American tobacco concerns to launch a diversification programme, and its first non-tobacco acquisition dates back to 1963.

Subsequent acquisitions and expansion have taken it into the fields of foods and beverages, containerised freight transportation (through its sea-land subsidiary), and aluminium packaging. The company has its headquarters in Winston-Salem, North Carolina.

Stewart Fleming writes: Burmah's announcement came too late to influence Stock Exchange dealings and the shares closed unchanged at 37p. The shares have been relatively strong in the weeks leading up to to-morrow's interim statement.

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The amiability of Federico Barocci

by DENYS SUTTON, Editor of Apollo

Barocci is a city of considerable individuality and its reputation is not only on its cooking, painting, especially that of the 17th century. During the years a group of enthusiasts headed by Cesare and with the constant support of Denis Mahon, has led a series of notable exhibitions which have rehabilitated local celebrities as well as the Caracci, Domenichini, and Guercino. These have made a major contribution to the history of Italian art, have effected a revolution in the Bolognese team, and have shown the world that the Bolognese team, in fact, were not only a group of artists but a school of thought. The exhibition, which has been held at the Museo Civico, is a testament to the city's artistic heritage.

Barocci's position in the art of his time and the extent of his influence. Although Barocci visited Rome he was content to spend most of his career in Urbino, where he acquired the patronage and consideration of the ruling family, the della Rovere. The letters from Francesco Maria II della Rovere, Duke of Urbino, quoted in the excellent catalogue are rich in sidelights on the relationship between a painter and a major protector. The Duke, whose portrait Barocci painted, had no illusions about the character of the artist, referring to his melancholy streak. It was hardly surprising that Barocci had this side to his

character for he was an ill man, suffering from ulcers, though he believed that he had been poisoned. As a result of his illness, he could only devote part of his time to his art but this did not prevent him from accomplishing a formidable body of work. His complaint may well have been exacerbated by the immense pains he took to achieve the degree of perfection that haunted him. One of the achievements of the exhibition is to confirm that Barocci was a master of his craft who was not prepared to undertake a major painting until he had tried out the poses of the figures by means of studies, often drawing a model in the nude so as to achieve the precise effect required. The organisers of the exhibition have taken immense trouble to find drawings that are connected with specific paintings and skillfully displayed them so that such changes as took place between the preparatory work

and the final achievement may be studied. It is a fascinating experience to be introduced to Barocci's secrets of technique and the exhibition is of great value for anyone keen on examining the creative processes. Barocci was one of the most attractive draughtsmen of the Italian school and his use of coloured chalks or pastels, which may have been due to the influence of Correggio, gives his drawings their special appeal. He is one of the few Old Masters to have used drawings for the purpose of establishing colour values. The large group of drawings on view in Bologna makes it easy to understand that they were prized by such eighteenth century French connoisseurs as Crozatier, Mariette and that they possibly influenced Lemoyne and Watteau. Barocci's determination to leave nothing to chance did not give a laboured effect to his pictures as might have been expected. What is so striking about major pictures such as *Descent from the Cross* in the Cathedral at Perugia and *The Visit of the Virgin to St. Elizabeth* in the Chiesa Nuova, Rome, is the extreme fluency of the handling and the sense of immediacy. He struck a lyrical note and his gift for securing an original and harmonious colour ensemble was due, not only to his experiments with drawings, but his use of oil sketches, then a rare artistic form in Italy. Most of Barocci's paintings were religious. He was one of the most human and gentle exponents of the Counter-Reformation and his connection with this movement is admirably discussed in the catalogue. His delightful religious pictures show that, although he mainly worked in a provincial centre, he could explore one of the chief moods of the time. One welcome aspect of the exhibition consists of the small group of portraits which possess just the sort of sensitivity that was so much of Barocci's art. His portrait of Francesco Maria II della Rovere in the Uffizi shows his debt to Titian, who clearly enthralled him, and he was also influenced by Raphael. However, the show makes clear that Barocci was himself a formidable painter. Rubens, Van Dyck and the Genoese school were in his debt. One point that emerges strongly from the exhibition is Barocci's influence on Velázquez. The great Spanish painter had the chance of seeing Christ on the Cross (Prado) and a version of *The Calling of St. Andrew* in Brussels in which the broad atmospheric landscapes have the impressionistic touch that Velázquez emulated. On the other hand, the silken qualities in Barocci's pictures suggest his appeal to Murillo, another painter who inspired admiration in the 18th century. Barocci's rare etchings attracted Rembrandt who is known to have owned some of them. This impressive and well balanced exhibition will do much to enhance Barocci's reputation as an exquisite draughtsman and a refined colourist whose elegant style and intimate, though controlled, figures make him a significant precursor of the 18th century. He is a Rococo master avant la lettre.



Federico Barocci: La Chianista di Sant' Andrea

Presenting the stars

by B. A. YOUNG

By way of an absolute change, Miss MacLaine then threw herself into the task of campaigning for George McGovern as President. This too proved a predestined failure before it was halfway through, but it gives Miss MacLaine a chance to show politicians and their satellites in close-up through a different lens from the conventional media scrutiny. They do not look very attractive. The most interesting part of the book is devoted to a visit that Miss MacLaine made to China leading a delegation of American women. She was greatly moved by the fortitude and devotion of the Chinese, whom she found uniformly likeable. She has a kind of astonished admiration for the Communist Chinese society, apart from its relegation of the creative arts to state history, though she confesses that she would not want to live as part of it. More interesting, though, is her keen account of the effect of China on the other women of her party, who varied from a 15-year-old school-girl to a mature WASP lady from Long Island. A Puerto Rican and a Negro, they did not, on the whole, last very well. Miss MacLaine's record is per-

ceptive and witty without being frivolous. She obviously makes up much of the dialogue, unless she has total recall, but it works. It was not, however, Grantland Rice who said that "it really did not matter who won or lost, but how you played the game." From the intellectual Miss MacLaine, one turns to Brian Rix, our most successful entrepreneur of farce. Mr. Rix's life has not been without interest (even his father's firm, Drypool Dock, is in the news), but he chooses to write as if he himself were one of the nitwits that he plays in his own productions, which anyone who has ever met him knows he most certainly isn't. Yet he uses a slangy, lapel-grabbing style, and permits himself a freedom of language and of sexual anecdote that would never have done for the Whitehall. It seems a pity. As for Bing Crosby, his authorised biographer writes as if for a pulp pulp news-sheet, with showbiz cliché elbowing showbiz cliché in an almost unreadable mishmash. The facts are there for the fans, and a lot of research has evidently been done, but I didn't feel I knew Bing Crosby any better at the end than I did when I first began to admire him somewhere about 1922.

The Golden Samurai

by DEBORAH PICKERING

production aimed at seven- and I think here the stops just short of 10-ids—it is possible, with adroit costumes, non-stop and contemporary music to make the impossible possible, even believable, antic young hearts. nine characters in search of a golden sword, discovery and redemption loomed city will guarantee er future for the citizens facing something like a 1975 crisis.

Geoffrey Cane's flimsy piece—It runs a few minutes over the hour is embellished with all the trappings of an unseasonal pantomime. There is glitter and golden lights and beauty and sadness, bad guys and good guys and a heroine in disguise and our young hero something like a Cockney barrow-boy stumbling against swarming Samurai and defeating dialogue. A bloodless script, however, succeeds in creating a flashy, rumbustious characters who flash along through scenes of action-packed drama.

Uniform has had far, far better productions than this, yet I have never known the audience participation so eager, vociferous or frenzied. Duncan Faber is the likeable, half-pint hero whose unfortunate diction (perhaps it was deliberate) fogged lines which may have been relevant; his giant-size protagonist, the self-styled "Mighty King" brilliantly, and hilariously played by Derek Fuke; Penny Candagli is a pretty Empress; and Jim Hayes as the Duke is an excellent nasty.

GILLIAN WHIDDON

Canadian theatre

An Englishman at Stratford

by HENRY POPKIN

This year, Robin Phillips became the third Englishman to run Ontario's Stratford Festival (succeeding Tyrone Guthrie, Michael Laughton, and the only Canadian ever to take charge at Stratford, Jess Gascon). Some of the beginning but cold-bloodedly prepared a test for him and for Vienna. Maria Henry (who is Isabella wears glasses and conventional costume throughout; she looks extremely harried and more successful than usual. At the end, she simply seems stunned and gives no sign of any willingness to marry the sadistic Duke. Mariana has apparently been living it up in her Moated Grange and has once engaged to Angelo, and so uniting this ill-matched pair may be said to be yet another of the dirty tricks the Duke plays. Brian Bedford's repressed Angelo and his Malvolio captivated by his own wit (in David Jones' acceptable, conventional *Twelfth Night*) are probably the two best acting jobs of the festival. It is unfortunate that illness kept Bedford from fulfilling his original intention of playing Captain Plume in Phillips' production of *Trammps and Drums*, which is Brecht's adaptation of Farquhar's *The Recruiting Officer*. *Trammps* displays an un-Brechtian sunniness, engendered by some songs that Brecht did not write, by a solemn reading—to solemn musical accompaniment—from the Declaration of Independence (where Brecht has only one line), and by the omission of some of Brecht's unseemly characters—a pimp, a prostitute, and a banker.



Toby Robins and Donald Burton in 'The Ecstasy of Rita Joe', which opened last night at the Hampstead Theatre Club

Herbert Lom as Napoleon

Herbert Lom will play the part of Napoleon Buonaparte in William Douglas Home's new play *Berck*, which will open at the Haymarket on October 22. Sir Hugh Hallett, Governor of St. Helena, will be played by Nigel Stock and the young girl Retzius by Briony McRoberts. The director is Kim Grant.

'Platforms'

"Platforms" is the name chosen by an association of well-known actors and actresses who have formed a company to play entertainments, anthologies, recitals and so on involving any or all of them. The roll is a distinguished one: it includes, in alphabetical order, Isla Blair, Brenda Bruce, Rowena Cooper, Judi Dench, Clive Francis, Julian Glover, Terrence Hardiman, Barrie Ingham, Derek Jacoby, Polly James, Barbara Leigh-Hunt, Clement McCallin, Richard Pasco, Norman Rodway, Clifford Rose, Prunella Scales, Timothy West and Michael Williams. Musicians are also associated with the company.

Arts news in brief . . .

A Schools Prom will be held at the Albert Hall on Tuesday, November 4. The music, all provided by schools bands, includes classical, jazz, and folk music, ranging from the Prelude to *The Mastersingers* at one end to a selection of pieces arranged for steel band at the other. London, the Alberta art show will be exhibited at the Canadian cultural centres in Paris and Brussels. The selection was made by Terry Fenton, director of the Edmonton Art Gallery. Sylvia Voyer, a former member of the Alberta Art Foundation, and the painter Harry Kiyooka who teaches in the Calgary University art department. Over 70 contemporary Canadian art works from Alberta will be shown at the Canada House Gallery in Trafalgar Square, London, on Tuesday, September 30. Drawn from the collection of the Alberta Art Foundation, established in 1972, it is one of the few eclectic selections of art from a Canadian province to tour abroad. After mission 30p.

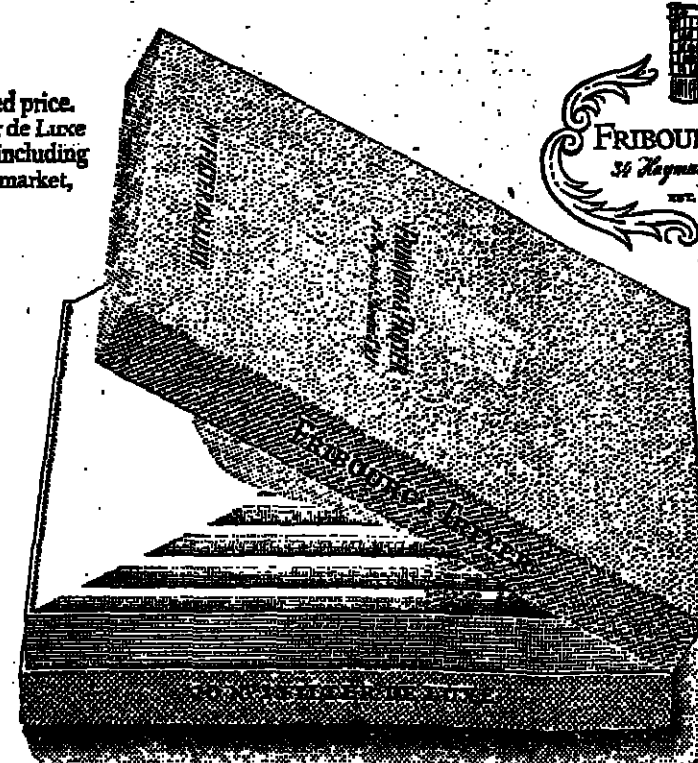


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THE ASSOCIATED MANGANESE MINES OF SOUTH AFRICA LIMITED

(Incorporated in the Republic of South Africa)

INTERIM REPORT FOR THE HALF YEAR ENDED 30th JUNE, 1975

Financial Results

The unaudited consolidated financial results of the Company and its subsidiaries are estimated as follows:

Year ended 31st Dec.	Half year ended 30th June, 1975	Half year ended 30th June, 1974
1974	1975	1974
R000	R000	R000
54 774	31 708	24 401
Turnover		
10 061	10 826	3 449
Profit before taxation and lease consideration		
1 489	2 433	557
Taxation and lease consideration (including deferred taxation)		
8 572	8 393	2 892
Profit after taxation and lease consideration		
737	1 458	113
Attributable to outside shareholders of subsidiaries		
7 835	6 935	2 779
Transfer to non-distributable reserve in respect of expenditure on fixed assets		
1 435	1 673	828
6 400	5 262	1 951
2	7	1
Preference dividend		
6 398	5 261	1 950
Profit attributable to ordinary shareholders		
200 cents	165 cents	61 cents
Earnings per ordinary share		
1 888	2 853	1 253
Capital commitments		

Dividends declared

Half-yearly dividend on the 7 per cent Preference shares, paid 30 June, 1975

Interim ordinary dividend No. 72 of 30 cents (1974-125 cents) per share, paid 5 August, 1975

Final ordinary dividend No. 71 of 28.5 cents per share amounting to R910 000 for the year ended 31 December 1974, was paid in February 1975.

General

Revenue from sales of ores and alloys are based on shipments made which can vary considerably from period to period, both as regards quantity and prices. In general, prices received for the products of the Company and its subsidiary, Ferroalloys Limited, were higher compared with those for the half-year ended 30 June 1974.

The attention of members is drawn to the Company's announcement published in the press on 19 September 1975 regarding its iron ore contract with United States Steel Corporation.

For and on behalf of the board

B. E. Hersov Chairman
G. Sacco Technical director
Directors

Registered office:

Anglovaal House
56 Main Street
Johannesburg

22 September 1975

London secretaries:
Anglo-Transvaal Trustees Limited
295 Regent Street
London W1R 8ST

Swiss concern at rising imports of Far East clothing

BY JOHN WICKS

ZURICH, Sept. 22

CHEAP CLOTHING from the Far East, imports of which are growing from year to year, is causing growing concern to the West European clothing industry, according to the Swiss Clothing Manufacturers' Association.

The Zurich-based body, which names Hong Kong, South Korea, Taiwan and Singapore as the main sources for those supplies, says the jeopardising of further workplans has led to voluntary control agreements between European countries to limit imports.

They include deals between Federal Germany and Hong Kong (outerwear), South Korea and Taiwan on one side and the Federal Republic and Benelux on the other (stockings), and Hong Kong and the Netherlands on the other (various items of clothing). Alternatively, unilateral import controls have been imposed.

'Marginal effect' of Rand devaluation

BY JAMES BUXTON

BRITISH companies trading with South Africa believe that the devaluation of the Rand will have only a marginal effect on them. More than half of British exports to South Africa consist of transport equipment and machinery (making up £236.7m. out of total exports of £390.3m. in the first seven months of this year) and such products are not very sensitive to price changes and have long delivery periods. South Africa cannot produce such products itself.

Exports of manufactured goods, which amounted to £61.7m. in the first seven months of the year, may be more seriously affected by the downturn in South African demand. But British manufacturers con-

tacted yesterday said they expected that the effect of the devaluation would only be slight. Several hundred British companies, including British Leyland, Dunlop, GKN, Glaxo and ICI have large subsidiaries in South Africa. Their performance will be affected partly by any downturn in demand resulting from the devaluation and other measures which may accompany it, and partly by the effect of the devaluation on the prices of imported components. Yesterday British parent companies said that their South African subsidiaries were still studying the situation and awaiting the Government's new anti-inflation package.

Feature Page 8

Greek plan for major new Athens airport

By Our Own Correspondent

ATHENS, Sept. 22

INTERNATIONAL COMPANIES will be invited to draw up feasibility studies on the suitability of the area of Megara, some 40 kms. west of here, for the construction of an international airport to meet the requirements of the Greek capital beyond 1980. Although only 12 kms. from Athens, the present residential suburbs which limit its expansion.

The decision to build a new airport followed a meeting of key ministers. Studies by Greek and foreign experts had found it imperative that a new airport with two landing strips be built to meet the ever increasing influx of tourists to Greece. About 65 per cent of all tourists who came to Greece last year arrived by air, and the rate of growth is expected to increase in coming years.

Should Megara, until now a chicken-growing area, be found unsuitable, a second choice is the area of Spata, about 20 kms. east of Athens. The two sites were given preference over Tanagra and the island of Markonissi, suggested by some experts, but both of which are 70 kms. from Athens.

Tanagra has a military airfield which would hinder air traffic at an international airport, and the choice of Markonissi would have necessitated building a link bridge with the mainland at the tip of Attica.

Until the airport is built, the existing one at Hellenikon will have to cope with the removal of small military aircraft and an aircraft maintenance factory in its vicinity. The Government hopes that exploitation of the area on which the present airport stands will contribute substantially towards the cost of the new airport.

Egyptian move to facilitate foreign investment

BY MICHAEL TIMGAY

CAIRO, Sept. 22

FOREIGN INVESTMENT work in practice remains projects in Egypt could be given a green light after a six-weeks examination period, if a decision is taken by Mr. Maimouni Salem, the Prime Minister, to create a series of investment work groups to be successfully implemented. This was decided after a meeting between the Premier and Dr. Zaki Shafat, Egyptian Minister for Economy and Economic Co-operation, following the latter's return from Britain and the U.S., according to Al-Ahram.

A working-group of representatives from the Egyptian ministries of Economy and Industry, together with academics will be appointed to investigate every new project. The groups will recommend approval or rejection of foreign investors' ideas within a six-weeks period. How this new attempt to release potential foreign investors from the bureaucratic stranglehold will industrial projects.

Shore in Moscow for further talks on trade

BY DAVID LASCELLES

MOSCOW, Sept. 22

MR. PETER SHORE, Secretary for Trade, arrived here on the last leg of his Far East tour, this afternoon for talks with top Soviet trade officials.

The visit will be brief and informal but the fact that it comes only six months after his last visit reflects the increasing momentum of Anglo-Soviet relations.

Tomorrow Mr. Shore will meet Mr. Nikolai Patolichiev, the Foreign Trade Minister, or one of his deputies, and Mr. Vladimir Kirillin, the Chairman of the State Committee for Science and Technology. He returns to London on Wednesday.

Talks will centre on the progress of Anglo-Soviet trade since the signing of several commercial agreements, including the £800m. credit deal during the Prime Minister's visit here in February. But no new agreements are expected to come out of the present visit.

Only £30m. of the credit deal has so far been taken up. However, British exports to the Soviet Union are running at twice £37m. worth last year.

Mr. Heath at 268,600-ton Japanese tanker launch

BY PETER DUMINY

TOKYO, Sept. 22

MR. EDWARD HEATH will be guest of honour at the launch of the 268,600-ton crude oil carrier, 'World Longevity', at Nagasaki tomorrow. The vessel is being built by Mitsubishi Heavy Industries for World-Wide (Shipping), the still-growing oil tanker empire assembled by Mr. Y. K. Pao, of Hong Kong.

Mr. Pao began in 1955 with a 7,800-ton freighter, and the company now owns about 125 ships and about 12m. deadweight tons, according to its Tokyo agent. It has taken delivery of nine vessels of about 2m. tons since the beginning of 1975, and has 30 more on order which will add another 6m. tons to the fleet by mid-1978, the agent says.

The build-up since November, 1974, appears to have been even more impressive. At that time the company said it owned 103 ships of roughly 10m. tons, which suggests the number has risen by more than 20 in 10 months.

About 90 per cent of the fleet has been built in Japan, with orders going to all major builders, and all vessels still to be delivered will come from Japanese and Korean yards.

During a visit to Tokyo, Mr. Pao forecast that 80 of world shipbuilding would be cancelled by the end of the year. However, he declined to be drawn on cancellation plans, which tend to follow attempt charterers to back out of oil tanker capacity.

Mr. Heath will be in Nagasaki until Thursday. His programme included lunch today with Kakuei Tanaka, the Premier, and courtesy calls on Mr. Takeo Miki, the Minister, and Mr. Mas Ohira, the Finance Minister.

IN BRIEF

Venezuela railways Transmark engineers are working in Venezuela to estimate for building a 620km railway line linking Puerto Ordaz, in the iron ore and steel manufacturing region, with San Juan de Los Morros in the north-central section. Cost would be several hundred million pounds, and the rail link would be an important part of the 4,000kms of railways planned over the next 15 years.

British Rail and Transmark are working together on the bid as members of a consortium.

Israel's nuclear power Bids by U.S. General Electric, Westinghouse and Babcock and Wilcox for Israel's first nuclear power station were opened yesterday. It will be several months before the contract choice is announced. The plant at Dimona, in Central Israel, is of 2,400 Mw capacity.

Greek tourism Greek foreign exchange ear from tourism rose 13.9 per cent in January-July to \$29 (\$254.8m. a year earlier), payable will therefore be 49.87p per share.

22nd September, 1975. ROYAL DUTCH PETROLEUM COMPANY

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Contracts Abroad

KORERING, U.S. will supply machinery and equipment costing \$80m. for drilling water wells to the Algerian state-run water utility Societe Rean.

CARRIER CORPORATION, U.S. is to supply compressors costing \$70m. for a natural gas gathering and processing network to be built in eastern Saudi Arabia.

AALBORG SHIPYARD, Denmark, is to rebuild two DFDS Seaways passenger-car liners on the Copenhagen-Oslo route for £2.5m. Capacity of each ship will be increased about 20 per cent.

THE FINANCIAL TIMES, published daily except Sundays and holidays. U.S. subscription price (air freight) \$300.00 per annum. Second class postage paid at New York, N.Y.

ROYAL DUTCH PETROLEUM COMPANY
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INTERIM DIVIDEND 1975

With reference to the announcement dated 16th September, 1975, regarding the INTERIM DIVIDEND for the year 1975 on the shares of N.V.20 registered in the U.K. Section of the Amsterdam Register, Royal Dutch Petroleum Company announces that the net amount payable for the payment of the dividend is N.Fls. 3.8265—£7. The gross amount of the dividend will be 66.649p per share and the amount of the 25% Netherlands Dividend Tax will be 16.662p per share; the net amount payable will therefore be 49.987p per share.

22nd September, 1975. ROYAL DUTCH PETROLEUM COMPANY

AMERICAN NEWS

Kissinger hails Sinai pact as Mideast 'turning point'

OUR OWN CORRESPONDENT

UNITED NATIONS, Sept. 22

Henry Kissinger, the "any country" and would States Secretary of State, co-operate with "any nation" United Nations General Assembly today that the new settlement "could mark a turning point" in the search for a "cease-fire" in the Middle East settlement. He said: "We will support whatever process seems most promising. Our approach will continue to be both flexible and determined."

Referring to the talks he has already had with the Soviet Union, he said that while they had important differences, the two countries held parallel views that the situation in the Middle East posed grave dangers, and that partial steps must be part of and contribute to progress towards a comprehensive settlement.

In his detailed review of world problems, the Secretary of State referred to China, which President Ford plans to visit later this year. There was no relationship to which the U.S. assigned greater significance than its ties with China, he said.

Only a brief section of his address was devoted to economic questions, but Dr. Kissinger stressed the need to redress the balance between the industrialised and developing countries.

ARGENTINA

It could be a lot worse

BY HUGH O'SHAUGHNESSY, RECENTLY IN BUENOS AIRES

ABOUT 450 people have lost their lives in the wave of political savagery that has swept over Argentina this year, the country is being ruled by the fifth different personality in two years, there is still a possibility that Argentina will have to declare a moratorium on its international debt and inflation can hardly be less than 200 per cent. in 1975. But things could be a lot worse. Indeed the optimist could say that things were looking up.

For more than a week now President Maria Estela "Isabelita" Peron has been taking much needed rest at an Air Force hotel near Cordoba where she went with the wives of the heads of the Argentine armed services, after handing over the presidency to the chairman of the Senate, Sr. Italo Argentino Luder.

Since she assumed the presidency, the death of her husband General Juan Domingo Peron at the beginning of July last year she has been under extreme pressure from the diverse and centrifugal forces within the Peronist movement, and has had to face a steadily increasing challenge of violence from the guerrilla groups, matched by the terrorism of right wing murder squads. During that time Argentina has slipped into a grave foreign exchange crisis and Sr. Peron was obliged to get rid of her closest adviser, Sr. Jose Lopez Rega, the bizarre astrologer who was her private secretary and minister of social welfare. On top of that her personal integrity was attacked by those who accused her of misappropriating Peronist funds and of having been the bigamous wife of the late General.

It was little surprise that she was showing signs of mental and physical prostration. She has taken leave of absence for 45 days but, according to the official version, will be back in the capital for the October 17 celebration of Peronist Loyalty Day. But there are many in the higher levels of government who say she will never resume her presidency or that if the unpredictable happens — always a likelihood in Argentine politics — and she does return then her authority will not be that it once was.

In conversation a fortnight ago in Buenos Aires the Foreign Minister and deputy leader of the Peronist movement, Sr. Federico Angel Rohleder, suggested that Senator Luder's term in office would be so temporary that he would not need to make any cabinet changes. However Luder's action in sacking two die-hard right wing ministers and moving Sr. Rohleder himself to the Interior post do not look like the actions of a four-week interim. Nor do his policy statements and his proclaimed desire to get the murderously hostile factions within Argentine political life talking to each other seem sensible if he is going to give up office next month.

The success of any effort by Senator Luder to bring order to the chaotic political life of the country must depend on the attitude of the armed forces.

Those who want an end to violence in politics and the beginning of a new dialogue among the Peronist factions and their political opponents are openly hoping that the President will not return or at least that Senator Luder will continue to have some continuing influence on affairs in Buenos Aires. In her 14 months in office Sr. Peron showed that she had little

of the tact or experience needed to govern such a difficult country as Argentina. Her decision to make Sr. Lopez Rega, a man almost universally detested in the country, into her super-minister and her desperate efforts to save him from disgrace and exile showed how unwise she was.

Her identification with a small Right-wing faction of the Peronist movement brought on her the enmity of most of the other factions.

At the same time the armed forces have been repeatedly hinting that they want carte blanche to dispose of the Montoneros and Marxist ERP guerrilla groups with the greatest speed and the fewest questions. They want their revenge on those who have blown up navy ships, air force planes and killed senior officers. If they were given or, more accurately, if they took the powers they want the scale of their operations and the way they carried it out might wreck any chance Senator Luder had of dealing with Argentina's problems by conciliation.

Looking past the next few months it becomes increasingly clear that Argentina is on the way to overcoming one principal problem that has been dogging it for three decades, that of Peronism versus the rest of Argentine society, and in particular Peronism versus the armed forces. With the death of Peron the heterogeneous movement he welded by the force of his own personality into a more or less coherent political force is falling apart with increasing swiftness, the guerrillas going to their corner, the immensely rich trade union leaders to theirs, the Peronist business community drifting towards the right and the working class Peronist voter with their fading photographs of Peron and his second wife, the magnetic Evita.

It is significant of the new alignment of political forces that for the first time a Peronist figure can count on the support from the generals and admirals that Senator Luder can today. The breaking up of the Peronist movement which sought to unite all classes behind a nationalism owing allegiance to one man may soon give way to politics run on more clear-cut class lines.

'Jobs-for-all' debate heats up

ADRIAN DICKS

WASHINGTON, Sept. 22

DEBATE between the Ford administration and its critics in Congress over the issue of providing additional stimulus to the economic recovery will take a lively turn in the next months with the opening of a new period of active exploration of economic affairs during his tenure of the JEC chairmanship, is being closely linked by many people here to his revived ambition to run once again for the Democratic nomination next year.

The President's increasingly insistent pledges to adhere to a conservative economic line and to continue to cut back Government spending appear to be dictated more than any other single factor by his need to pre-empt the appeal of former California Governor Ronald Reagan to the right wing of the Republican Party.

However, a shot across Mr. Ford's bows came from an unexpected quarter over the weekend when the House of Representatives passed a bill to reduce the Federal Reserve Board, Dr. Arthur Burns, made a speech combining some of the elements of the conservative philosophy with which he is often identified with some of the radical solutions to economic problems contemplated by

Senator Humphrey and other Democratic liberals. Dr. Burns called, like the Hawkins-Humphrey Bill, for a programme that would guarantee jobs, while at the same time reducing what he called overgenerous unemployment insurance benefits.

Those who want an end to violence in politics and the beginning of a new dialogue among the Peronist factions and their political opponents are openly hoping that the President will not return or at least that Senator Luder will continue to have some continuing influence on affairs in Buenos Aires. In her 14 months in office Sr. Peron showed that she had little

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*Some of the 600 companies: Digital, Syntex, Gillette, Courtaulds, Asahi, Tube Investments, Snia Viscosa, Akzo, Borg Warner, Plessey, Pfizer, Black and Decker etc. Full listing on request.

Trans-Atlantic drink shipments investigated

JAY PALMER

NEW YORK, Sept. 22

U.S. Justice Department said this morning that it had a sweeping anti-trust suit against the shipping lines and the American wine and spirits industry. The department said that it was specifically looking at retail contracts now being negotiated between alcoholic importers and the shipping companies. Under these contracts, the shipping companies are guaranteed ocean freight rates for a period of time, in return, apparently promise to move European wine and spirits in vessels of specified lines.

ment agreed that the anti-trust study might very easily be widened to include a detailed look at the operations of the wholesale U.S. distributors of European wines and spirits. He stressed, however, that the investigation would not directly or indirectly challenge the widespread and legal practice whereby shipping lines get together in conferences to fix ocean rates.

Pointing out that such rate-setting conferences are immunised from anti-trust prosecution by the Federal Maritime Commission, the Justice Department said it would only be looking at the possibly illegal links between the conferences and other parties.

Chilean subversion warning

DAVID WHITE

RIO DE JANEIRO, Sept. 22

ERNESTO Geisel, the President, last night said that the armed forces continue their campaign against subversive organisations, he said were receiving support abroad. President said that press and even repressive measures were needed to counter the "subversive" enemy, which neutralised, he said, not been destroyed.

Speaking to the national convention of the National Renewal Alliance (Arena), the Government party in Congress, President Geisel also criticised the country's "archaic" judicial system for failing to deal quickly with cases of corruption. He recently intervened with discretionary powers to remove an accused Arena Senator, Sr. Wilson Campos, aid to confiscate bus licences belonging to a Sao Paulo tycoon, Sr. Jose Joao Abdalla.

Trinidad takes Liat airline share

OUR OWN CORRESPONDENT BRIDGETOWN, Sept. 22

TRINIDAD and Tobago has decided to contribute \$1750,000 into a shareholding in Liat 1974, the inter-island airline serves the southern Caribbean and which has been over by Commonwealth member Governments following the collapse of its parent company, Court Line, last year.

Teachers strike BOSTON

BOSTON, Sept. 22

ON'S school teachers went to work today after rejecting a wage increase offer, plunging a school system into a state of confusion. The teachers' union, which has been in a state of confusion since the 5,000 teachers' strike did not agree with the offer and it was not immediately known how many would obey the strike call. The teachers' union could affect about 50,000 students. The teachers are seeking a 9 per cent wage increase last week a group of black students sought a court injunction against any strike.

CHILE DEVALUES ESCUDO AGAIN

SANTIAGO, Sept. 22

CHILE DEVALUED its escudo for the 19th time this year, a Central Bank spokesman said. The rate used for imports and exports and that used for money exchange in banks were simultaneously devalued from 6,100 escudos to 6,400 escudos per U.S. dollar. On September 22, Chile officially goes off the escudo to the peso as the country's new monetary unit. The object of the change is to make monetary calculations less cumbersome and substantially reduce the number of zeroes used in everyday purchases. Each of the new pesos will be worth the equivalent of 1,000 escudos AP-DJ

All these Bonds have been sold. This announcement appears as a matter of record only.

NEW ISSUE

September 5, 1975



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J. Henry Schroder Wagg & Co.

Smith, Barney & Co.

Société Séquanais de Banque

Sumitomo White Weld

J. Vontobel & Co.

S.G. Warburg & Co. Ltd.

Wood Gundy

It's 3.30pm in Brussels and you've got to meet your chairman in Rome for dinner.

As the crow flies.

Next direct flight leaves 7.15pm.

Arrives Rome 11.25pm.

As Swissair flies.

Next Swissair flight via Geneva

leaves 3.50pm. Arrives

Rome 8.35pm.

Time saved: 2 hours 50 minutes.

It's 3.00pm in Paris and you want to be in Vienna as soon as possible.

As the crow flies.

Next direct flight leaves

8.45pm. Arrives Vienna

10.30pm.

As Swissair flies.

Next Swissair flight via Zurich

leaves 4.20pm. Arrives

Vienna 7.55pm.

Time saved: 2 hours 35 minutes.

It's 4.30pm in Madrid and you've got to be in Munich that night.

As the crow flies.

Next direct flight leaves 9.55am the

next day. Arrives Munich

12.30pm tomorrow.

As Swissair flies.

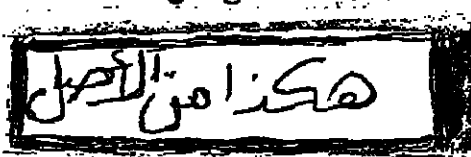
Next Swissair flight via Zurich

leaves at 4.50pm today. Arrives

Munich 8.25pm.

Time saved: 16 hours 5 minutes.

Swissair offers connecting flights between 37 European business centres.



SWISSAIR: BECAUSE WE'RE CLOSER TO MORE BUSINESS CENTRES IN EUROPE THAN ANYONE ELSE.

EUROPEAN NEWS

Bonn trade surplus in Aug. lowest this year

By Nicholas Colchester

BONN, Sept. 22.

A SHARP reduction in West German exports from DM11.8bn. in July to DM15.47bn. in August (about £3.5bn. to £2.83bn.) left the country last month with a smaller trade surplus, at DM1.747bn. (about £320m.), than any recorded this year. On current account the particularly heavy money outflow on the holiday season left a deficit for August of DM22bn.

The export figure was 18 per cent down, while the value of imports dropped 11 per cent to DM13.725bn. The balances for August compared with a trade surplus in July of DM3.7bn. and a deficit of DM100m. on current account.

In the first eight months of 1975 West Germany exported a total of DM142.9bn. worth of goods and imported goods totalling DM117.5bn. Thus in cash terms West Germany's exports for this period were 5 per cent down, while its imports were virtually unchanged.

The average export price for the first eight months was, however, 10 per cent higher than in the 1974 period, while that of imports fell by 1 per cent. These figures suggest that import volume so far this year is about 1 per cent up on last year's figure, while export volume has dropped by about 12 per cent.

The total trade surplus so far this year is DM25.2bn. compared with DM32.9bn. to the end of August last year. On current account the surplus has dropped from DM13.1bn. to DM5.3bn.

SPD split over state intervention

By Jonathan Carr

BONN, Sept. 22.

LESS THAN two months before the ruling Social Democrat Party (SPD) holds its national congress, major differences have erupted in public between rival party wings over state intervention in the economy. They indicate that Chancellor Helmut Schmidt faces a very tough task in rallying the SPD around moderate Government economic policy which he addressed last night at the Congress in Mannheim.

In two SPD branches at the weekend - one in North Rhine-Westphalia and the other in Schleswig-Holstein - a majority of delegates voted in favour of measures identified with the party's left, including state control of investment. The SPD chairman, Herr Willy Brandt, was present at the first gathering and supported public debate of these issues on grounds that they were a matter of concern throughout the recession-hit Western world.

But at another party meeting in Hamburg, Herr Schmidt struck quite another note. In a powerful address lasting more than an hour, he poured scorn on the theory that a centralised steering of investment against the individual wishes of private enterprises could haul the economy out of its difficulties.

The SPD, he said, could not afford to be divided into those "useful fools" who sought to cope with current problems and "lofty theoreticians" to deal with future tasks. He added that those who believed voters would long tolerate a picture of disunity in party ranks were making a big mistake.

Publication of a poll recently taken by the respected Allensbach Institute gives added force to the Chancellor's warning. It shows that if a general election were to be held now, the Opposition CDU/CSU would gain just 50 per cent of the vote, the SPD would receive 41 per cent, and its coalition partner, the liberal Free Democrats (FDP) 8 per cent.

Should Herr Schmidt fail to rally the party to his cause, in Mannheim, the spectacle of the growing power of the Left would be likely to lose the SPD further popular support.

The shift to the Left has already brought a series of warnings to the SPD from the FDP. Liberal leaders have made it clear that such policies as investment-steering could not form part of the programme of any government in which they were involved. The FDP chairman, Hans-Dietrich Genscher, has just announced that his party will make a statement next May on its coalition intentions for the period after the general election of October, 1976.

Poland may not renew freeze on food prices

By Paul Lendvai

VIENNA, Sept. 22.

A SPEECH by Polish party chief Edward Gierek on the weekend engendered speculation that the five-year-long price freeze for basic foodstuffs will expire at the end of this year and be followed by an upward revision of food prices, especially for meat.

Answering questions posed by party activists at a meeting in the town of Sosnowiec, Mr. Gierek said that the price freeze, imposed at the beginning of 1971, had helped to raise the standard of living. However, he implied that the freeze had been responsible for the shortage of food.

Significantly, he failed to make any reference to a prolongation of the freeze.



Mme. Françoise Claustre, the French archaeologist whose execution is to take place a.m. to-day unless her rebel captors in northern Chad accept France's ransom offer.

France trying to save Claustre

By Robert Mathew

PARIS, Sept.

WITH LESS than 24 hours to go before the threatened execution by rebels in northern Chad of French archaeologist Françoise Claustre, the French Government was making hectic 11th hour efforts to save her.

According to well-informed sources in Paris, the rebel leader Hissene Habre has turned down a French proposal, broadcast repeatedly on short-wave radio over the past ten days or so, to release Mme. Claustre in exchange for a cash ransom of Frs.10m. (£2m.) in the northern Chad town of Bardai.

The reason for this refusal is that the rebels want military equipment as well as cash, some of which they have already received. They also want to see the French leader in person, which the French Government is unwilling to do.

The latest French concession came after Mr. Habre, clearly not a man to be toyed with, made plain yesterday that the French offer of only a cash payment was entirely unacceptable. According to a correspondent of the Paris paper Le Figaro, reporting from the Tibesti desert, the rebel leader sent a message to the French authorities that they must make known their position by to-morrow's day. In spite of all French efforts to effect the release of Mme. Claustre, the same time pressure friendly relations with the Government, it has heavily between two stock only in Mme. Claustre, prisoner after 27 months. Chad Government has highly critical of French in its latest statement. Chad Foreign Minister described France's attempt to negotiate directly with the "intolerable actions" of the Chad people's and legitimate rights.

The Ministry claims France had violated the stiples of the UN Charter, abusive demonstration, technical and military protection.

Several members of Government met privately the week-end to discuss the political situation and the wave of protest abroad. Defence lawyers, while, do not expect the penalty to be carried out, any of the 11, all found guilty of the killing of a killing of police officers.

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Swiss move to join 'snake' goes ahead despite problems

REGINALD DALE, COMMON MARKET CORRESPONDENT

BRUSSELS, Sept. 22. REPRESENTING have the same status as the 12 member countries of the and Norway, which are technically "snake" through a series of bilateral agreements between the central banks, France, Germany, Italy, the Netherlands, Belgium, Luxembourg and Denmark. The EEC countries which are not "snake" members—the U.K., Ireland, Greece, and Turkey—are to be consulted before any final decision on the Swiss move is made. Ministers asked central banks to push forward with studies of the difficulties and report to the Ministerial meeting for mid-November. But Switzerland, supported by the "snake" countries, is anxious to join the EEC. France still clearly has reservations. It has now apparently decided that the change in Swiss taxation and regulations need not be a pre-condition for joining the EEC. The Swiss, French, and other officials, it is a number of other problems remained to be solved before Switzerland could be admitted to the EEC. The Commission, Herr Wilhelm Haferkamp, vice president of economic and monetary affairs, accepted the proposals had political implications and needed a great deal of study. The matter is likely to be raised again at the next Finance Council meeting in November.

U.S. urged to 'control' forces of protectionism

DAVID CURRY

BRUSSELS, Sept. 22

EUROPEAN Community U.S. seem to be heading for a dispute following the EEC steel exports to now face the threat of countervailing duties on them. The U.S. is investigating dumping against car imports from the EEC. Brussels Commission yesterday charged that a fifth of all U.S. market exports to the EEC are under actual or potential threat of being affected by countervailing duties. The Commission sees the steel and car moves as no more than the heaviest blows so far in a growing protectionist offensive by the U.S. Other issues between the EEC and the U.S. include: Canned hams: A preliminary U.S. treasury investigation into EEC exports of canned ham (mainly from Denmark and Holland) worth some \$250m a year is being conducted on the grounds that Common Agricultural Policy export rebates on the ham are an unfair subsidy calling for countervailing duties. Glass: A countervailing duties case is under way on sales of EEC float glass to the U.S. on the grounds that investment aids for industry in the regions may constitute export subsidies. Special steels: In July, 1975, is clearly alarmed at American companies asked for quotas on EEC and Japanese imports which, they claim, are injuring them. Footwear: The industry in the U.S. has asked for import safeguards on leather footwear imports, mainly from Italy, which was made on September 1, 1975, the company U.S. Steel, year.

French redundancy threat

RUPERT CORNWELL

PARIS, Sept. 22

EUROPEAN steel groups running about 40 per cent. below last year's levels, while production is only 20 per cent. down. In the present depressed climate, stocks are already at dangerous levels. Under these conditions—the worst, it is claimed, in the steel business for some 40 years—each of the two largest groups, Satchi and Usinor, is understood to feel that it is carrying 10,000 or more men too many.

Swedes cut steel price to counter Spanish dumping

WILLIAM DUFFORCE

STOCKHOLM, Sept. 22

SWEDISH steel mills to-day price of reinforcement bars at 20 per cent. of Kr.250 ton in an effort to ward off dumping by Spanish exports to that which the market has been sub-siding. The Swedes are under a lot of pressure from the Independent Steel Producers Association. Spanish mills attacked the market in June and supplied 10 per cent. of total imports. Movement bars in June at prices well below the domestic mills, supply 80 per cent. of the and of the Norwegian, and Dutch exporters, who supply the remainder. Spaniards have also in-ported to Sweden of steel bars, taking 10 per cent. of the market during the first six months of the year. Eight of the Swedish mills reflected in export figures. During the first half of this year of reinforcement bars by 42 per cent. compared with the period last year, with 34,343 tons for the period in cent. in volume. Imports 1974, he said. On the other hand, per cent. but this was due Swedish special steel imports to miscalculations by from Britain had risen from 14,171 tons to 19,634 tons.

'No change' trend in Finnish election

By Lance Keyworth

HELSINKI, Sept. 22

WITH ROUGHLY 50 per cent. of the votes counted late to-night the computerised trend forecast indicated that no major changes can be expected in the power relations of the four big parties in the Finnish general election. These parties are the Social Democratic, Communist, Centre (formerly Agrarian), and Conservative parties.

The Communists are showing a steady gain, about 2.5 per cent., which could mean another five or six parliamentary seats and keep them in the position of the second biggest party represented. Most of the gains of the big parties are at the expense of the small, some of which have been practically decimated, according to the computer forecast.

A small non-Socialist majority in the new 200-seat unicameral Parliament seems assured.

All 12 political parties agreed during the campaign the country is in economic trouble. The major export industry of paper and wood has collapsed in the West European recession and so far this year imports have exceeded exports by \$1.5bn.

INVESTMENT CONTRACTS IN GREECE

The controversy over revision

BY OUR ATHENS CORRESPONDENT

BUSINESSMEN who signed foreign investment deals with the military regime which ruled Greece from April 1967 to July 1974 are up in arms against a recent law which in essence enables the Government unilaterally to revise the terms of those contracts.

The law was published in the official Gazette on August 28 and was enacted in accordance with Article 107 of the new constitution. The constitution approved in June guarantees, unaltered the protection of foreign capital invested in Greece prior to April 21, 1967 (when the army staged its coup) and after July 23, 1974 (when the junta collapsed).

The same article in the constitution provides for an exceptional law making possible a revision of investment approvals or contracts concluded during the junta days. Investors per- taining to the revision of the Greek flag are exempt from this possibility.

Contracts of this kind were concluded under Law 2687 of 1953 between the Government and a would-be investor to ensure to him the right to repatriate profits and part of his capital. In some special cases, further reaching privileges were also granted.

Businessmen who signed such deals consider that the law is unconstitutional and runs contrary to the Government's expressed policy of attracting foreign capital. Several have said that, if applied, the law may scare away foreign capital and

undermine the future economic development of Greece.

The law permits the Minister of Co-ordination (in fact Minister of Economics) to decide at his discretion which of the contracts signed with the junta are to be revised. The criteria to be applied by the Economic

Committee does not allow them to enter into agreements with third parties (such as suppliers) for fear that at any time the ministry may decide to seek revision of their contracts.

For those who have already gone ahead with the implementation of their contracts, things by it in connection with an in-

vestment project, if such payment is judged by a competent court to have been excessive.

The law stipulates that the right originally granted to investors under Law 2687 of 1953 to repatriate part of their capital and profits remains unaffected by the revision or abrogation procedures.

The opposition, which politically is to the left of the Government and not very favourable towards foreign capital, has backed the new Bill. Some businessmen who are affected by the new law but refuse to be quoted, say that they plan to take their case to Greek courts to test the constitutionality of the law.

Among those contracts, signed during the junta days, which the Government has already indicated it wants to revise, are those with Siemens of Austria for a plant in Salonica to manufacture trucks and tractors, Nestle

for a plant at Platy, Northern Greece, to process milk and produce dairy products, Renault-Peugeot for a plant at Volos, in east central Greece, for the assembly of cars. The first two are already in operation while the Renault-Peugeot project never got off the ground.

In the seven years of military rule, foreign investments worth a total of \$2.4bn. were approved upon generous terms, some further extensions of existing ventures. But only about \$436m. were actually disbursed, since several of the major projects approved by the junta (such as a series of Lipton plants and a package deal with the late Aristotle Onassis entering on a refinery) subsequently fell through.

Since democratic rule was restored in Greece, a total of \$128m. worth of foreign investments has been approved. The largest of these has been for a \$414m. cement factory to be established by a Greek, presumably in co-operation with foreign interests.

In general, while still welcoming direct foreign investment, which could help balance external payments, the Government is likely to become more selective.

Investments likely to be approved will be those that bring in more foreign exchange than they take out, that cover real needs of the economy, employ surplus labour and use local raw materials or intermediate items.



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HOME NEWS

Pye to lose 500 'phone jobs in Dulwich closure

CHRISTOPHER LORENZ AND LORELIES OSLAGER

ONLY major telecommunications manufacturer not to announce or warn of redundancies in the wake of cutbacks in the Post Office's ordering programme, Pye yesterday declared that 500 jobs would have to be lost over the next six months by the closure of its factory in West Dulwich, South London.

It denied that the move connected with the short-situation which has forced and Plessey to announce the past ten days a joint in total of 7,000 job cutbacks more to come and Standard Cables also said it would eventually have to make redundancies.

C. Plessey and STC are pressing the Government to end moderate the cuts, on the crucial exchange machine could exceed 30 per of the originally targeted cuts for 1975-76 and 21 per

cent. of the 1976-77 level. Representatives of the GEC Telecommunications trade unions are meeting Mr. Eric Varley, the Industry Secretary on October 2 to protest at the cuts.

There are fears that the jobs lost could exceed 12,000, and just possibly reach 20,000, if the PO's worst forecasts are realised.

Pye TMC, which through Pye is part of the Dutch Philips group, laid the blame for the Dulwich closure on the shift in telephone technology from electro-mechanical to electronic exchanges. Requirements for the older electro-mechanical type had been declining for several years, Pye TMC said, and the company could no longer support two separate manufacturing units at Dulwich and Malmesbury, Wiltshire.

Dulwich has long been a candidate for closure by industry sources, as it is one of the oldest plants in any company. The 500 employees at Malmesbury assemble Strouger but are also engaged in advanced semiconductor based products. Pye TMC has never made Crossbar exchanges, which have been hit even more than Strouger by the recent P.O. cuts.

Apart from "minor adjustments" which may be necessary later on at Malmesbury, Pye TMC said the Dulwich closure was expected to secure the jobs of the remaining 3,050 workforce. The Dulwich labour force has already been run down by almost 100 people through natural wastage over the past year.

Explaining the shift in exchange ordering, the company said the P.O. had built no new Strouger public exchanges since 1969. Since then orders for Strouger had been for extensions to existing exchanges, and this type of work was phasing out.

There was no comment from the unions on Pye's decision yesterday. But one group of workers threatened by the Plessey and GEC redundancies have decided to step up their campaign.

About 1,000 white collar staff from three of the Plessey Telecommunications plants on Merseyside voted overwhelmingly to resist the threatened redundancies and called on local MPs to ask the Government to reverse cuts in the Post Office orders.

The idea that proven top management skills from the biggest companies could be made available on a part-time footing as a kind of levelling elsewhere has obvious attractions as means of raising executive standards more widely.

It is known to be a concept in which Mr. Gordon Richardson, Governor of the Bank of England, has often expressed interest. The Bank itself has a Court, the body corresponding to the Board of a commercial or industrial company which includes prominent part-time directors drawn from industry, the City and the trade unions.

The Bank is undoubtedly fully aware that large and busy companies could not quickly or perhaps readily make their top men available, even for limited service, on the Boards of other concerns.

Nonetheless, there is growing interest in senior quarters in the City—a concern reflected in some of Sir Henry's discussions—that those companies whose growth is very fully stretched, or whose high-ranking director of a British company remarked yesterday that the idea was under way to catch on "for the simple

Sir Henry studies scheme for part-time directors

MARGARET REID

POSSIBILITY that more executives of leading British companies might serve as part-time directors of other companies has been ventilated in a series of discussions which Sir Henry Benson, the Bank of England's industrial adviser, is only holding.

The subject is only one of being covered in conversations which Sir Henry has been holding on a range of matters relating to the financing of industry's other aspects of its relationships, particularly with the

question is highly in the light of growing interest in the concept of last week's events at Organisation—in the form of non-executive directors.

is also controversial. Against advantages of "cross-fertilisation" benefits to be derived from a wider use of the services of top executives as part-time directors elsewhere.

argument is raised that management expertise is being very fully stretched, or whose high-ranking director of a British company remarked yesterday that the idea was under way to catch on "for the simple

reason that most large U.K. groups operate under such pressure that they can't spare good people."

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The Navy's senior Admiral of the Fleet, Earl Mountbatten, hears the Royal Navy's latest hovercraft with Sir Christopher Hartley, chairman of the British Hovercraft Corporation, at Southampton yesterday before visiting the Isle of Wight.

Bill could breach £6 limit

THE GOVERNMENT'S Employment Protection Bill might result in the £6 wage ceiling being breached and could put employers in an intolerable position, Lord Gowrie, a Conservative front bench spokesman, told the Lords last night.

He predicted that a situation could arise where the intervention of the advisory conciliation and arbitration service (ACAS) resulted in a wage settlement. But the Department of Employment might decide that it was outside the £6 limit and get the Price Commission to penalise the employer concerned.

The House of Lords, which is meeting this week to deal with left-over business, was on the committee stage of the Bill. Lord Gowrie also criticised Schedule II of the legislation which entitles a union to appeal to ACAS that wages in a particular plant are below national rates and that these rates should be made a term of employment.

Lord Gowrie withdrew an amendment that ACAS should give advice to employers on claims made under Schedule II. Another Tory amendment that ACAS should give help on the retention of workers in employment was not moved after Lord Shepherd, Leader of the House, assured peers that the Government was prepared to consider such a scheme.

Finniston hopes BSC will break even by 1976-77

BY CHRIS SAUR, SCOTTISH CORRESPONDENT

SIR MONTY FINNISTON, chairman of the British Steel Corporation, predicted yesterday that the corporation should transform its present heavy losses into break-even point by the end of next year.

He said in Glasgow: "We ought to break even in 1976-77 and might even make a small profit. We certainly will not make losses on the scale that are anticipated for the current year—1975-76." Sir Monty repeated his assertion that the current economic recession which was the major cause of the BSC's adverse results, was now near the "bottom of the trough" although an upturn would be unlikely until the middle of next year.

The BSC chairman forecast that losses in the current year might amount to about £250m. He said that although the Corporation's six-point cost-saving agreement with steel industry unions was achieving some results, it was not working "as completely as we would have liked."

He envisaged that by 1985-1990 Hunterston would produce double the 4.5m. tons a year being provided by existing plant in Scotland. An integrated project at Hunterston would not produce less than 8m. tons a year and might reach 9m.10m. tons a year.

Study plan on hooligans

BY JOHN HUNT

THE GOVERNMENT is considering the possibility of setting up a long-term research study into the motivation of football hooligans, Baroness Birk, Under-Secretary for the Environment, told the House of Lords yesterday.

It was hoped to discuss the matter at a meeting to be held within the next two weeks between her department, the Home Office and the Sports Council.

The Government, she said, was entirely in agreement with the suggestion that offenders at football grounds should be forced to do some sort of community service on Saturday afternoons. This would be much more effective than imposing fines.

Lord Soper, the Methodist leader, said the situation could be improved by preventing alcohol being taken into the grounds.

Petrol price plea to Minister

BY PETER FOSTER

A CALL for a general reduction in wholesale petrol prices and for an end to selective support of certain retailers by oil companies has come from the Motor Agents Association, which represents 18,000 U.K. garages.

The MAA's case, contained in a letter sent last week to Mrs. Shirley Williams, the Prices Secretary, claims that the selective support now being given by the majority of oil majors is creating "severe disturbances of the market and arousing fears of a monopoly situation developing."

Stressing that the present situation has produced a disorderly marketing environment which will only temporarily benefit some customers, it points out that non-supported retailers cannot match prices which are the result of wholesale subsidies.

It also refers to the example of four-star petrol being sold at 62p a gallon, "a price lower than other retailers' buying

price," by a "large supermarket chain." The MAA is evidently referring to the petrol sales of the Leeds-based hypermarket group ASDA, which is supplied by Mobil, and whose cut-price sales in the North have been creating havoc among rivals.

The association does not dispute the findings of the recent Price Commission report into petrol retailers' margins—which pointed out that the retailing network would inevitably contract more rapidly due to the stagnation of demand for petrol—but continues: "What urgently concerns our members is the unfairness of selected support advancing the premature end of so many retailers."

"Our members strongly believe that this will lead to a monopoly situation which could be against the public interest insofar as prices, choice, and service are concerned."

It will be argued that the release of the letter's text by the MAA amounts to an attempt to "upstage" its smaller but traditionally more militant rival, the Petroleum Retailers Association, which is due to publish a report on the market situation to-day.

Although the PRA will call for an end to selective wholesale subsidies by the oil majors, it will in addition recommend a minimum retail price for petrol, a move which the MAA believes is against the public interest.

Selective subsidies of the type mentioned by both the MAA and the PRA are now widespread and are being given by, among others, Shell-Mex and BP and by Esso, which between them supply two-thirds of all U.K. retail outlets.

The oil companies are likely to be embarrassed by the association's claims but will argue that they are only acting in response to the increasingly aggressive cut-price policies of a number of small independent chains.

Ryder outlines support policy of the NEB

THE National Enterprise Board will not be a "soft touch" for companies needing financial support, Lord Ryder, the Board's chairman-designate, told the Foreign Press Association in London yesterday.

He hoped that companies with major projects of benefit to themselves or the economy would come forward when they were held up for lack of cash. "But in case anybody thinks the NEB is a soft touch, I would like to stress that any project that comes before us will receive as critical and searching a scrutiny as anyone in the City would give them."

The Board would look to schemes which promoted development in areas of high unemployment and the prospect of capital return.

Britain, he added, would have a "very rough two years" before coming through its economic crisis and it was essential British industry was made efficient.

"We have just temporarily lost our way and have to find it again." He had become sick, when "acting as an unpaid ambassador for Britain on trips abroad," of listening to complaints about late deliveries, orders that did not arrive, and so on. To pull out of the present situation people in various walks of life would have to contribute.

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HOME NEWS

Xerox chairman urges multinational charter

BY ROY LEVINE

A PLEA to leaders of multinational corporations to take a new initiative to combat growing public hostility to their activities and to draw up their own code of conduct was made by Mr. Rank Xerox, chairman of Rank Xerox at an international conference in Rimini, Italy, yesterday.

Speaking at the Industry and Culture International Conference organised by Plo Manu International Research Centre on Environment Structures, he suggested the formation of an international council of multinationals to create codes of conduct and standards as the basis of a Charter of Industrial Diplomacy.

A variety of conclusions have been drawn and an array of remedies urged on us, and I believe it is time that we, the multinational corporations, took an initiative."

He referred to the attacks on multinationals by governments of emerging nations which were legislating for their own terms of international trade relations; and agencies such as the UN, EEC and International Labour Organisation which were formulating codes of practice for multinationals.

Proposing a charter, he said: "I believe it is possible for the multinationals to formulate guidelines of self-discipline which are both sensitive to the essential commercial viability of their investment and to the national customs, institutions and social structure within the host countries."

Living standards

Concerning benefits which multinationals could bring, he commented: "The best of them believe they have a duty to mankind to help raise standards of living in the poorer countries and can do so by sharing the resources they have created."

"It is because there have been some rescue elephants in the herd that world attitudes towards commercial morality have changed dramatically."

The setting-up of a council would give multinationals the opportunity to form their own standards of conduct which would help promote the concept that investment by a multinational corporation led to a

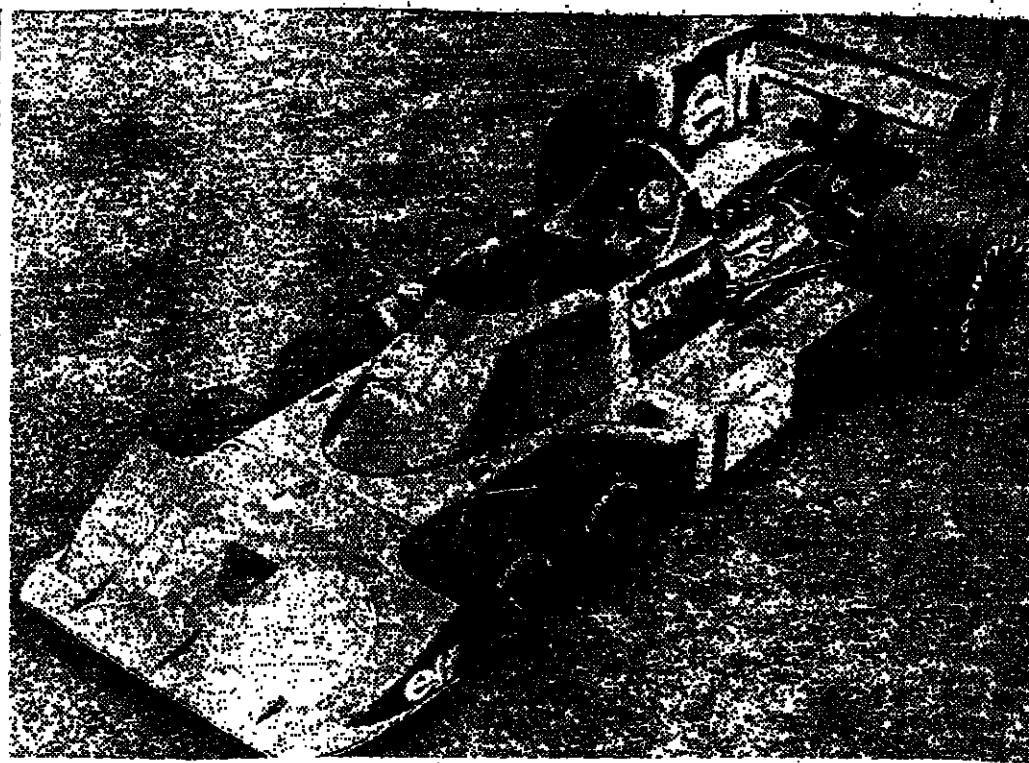
partnership with, and not exploitation of, the host country. "The council would act as a bridge between such international institutions as the UN, EEC and International Chamber of Commerce and those organisations, large or small, who trade trans-nationally."

After "full and free" consultation with host governments, the council would draw up a charter of industrial diplomacy which would be the skeleton on which individual corporations would build their own agreements on standards of financial control, industrial relations and social responsibility appropriate to the conditions in the territories in which they decide to invest.

Each individual agreement would define policies on investment, employment, training programmes and industrial relations.

"In return for such statements, I believe the host country would willingly give reciprocal undertakings of good faith and assurances of security of tenure to the investor."

Rank Xerox price rises—Back Page



IF TESTS prove successful, this revolutionary new six-wheel Formula 1 racing car may be seen on the track sometime next year.

Designed by Derek Gardner, and built by Ken Tyrrell at the Elf Team Tyrrell workshops in Ockham, Surrey, the car will have its first major trial at Silverstone next month.

The plan is to race it for Elf Team Tyrrell next year if it proves successful at speed.

The object of having four front driving-wheels is to reduce drag; front tyres on the current Elf Tyrrells are reckoned to account for well over 10 per cent. of total drag. Hence the new car could have an increased output of up to 40 bhp.

Gardner and Tyrrell began working on the car five years ago. The breakthrough came in August last year when Goodyear agreed to produce the special front tyres required for the car.

First tests on the car will be carried out by Patrick Depailler, the French driver, who will be followed by Jody Scheckter, his South African team mate.

Court Line victims seek immediate repayment

BY ARTHUR SANDLES

COURT LINE customers who still have not had their money back after the group's collapse a year ago, involving Clarksons, one of Britain's biggest tour operators, are demanding immediate repayment of "pipeline" monies—cash held by travel agents and still frozen by legal argument over who owns it.

The Association of British Travel Agents said yesterday that it hoped the remaining compensation would be paid to Court Line customers by the end of the month. But Mr. Reg Law, chairman of the Court Line Action Group, said bluntly: "I don't believe it. We've been given those sort of stories for a year now."

ABTA estimates that of the original 100,000 people who were caught in the collapse, half have already had their money back. Mr. Law disagrees, suggesting that 70 per cent. of the victims still have to be repaid.

There have been indications in the trade press that some agents who have been obeying ABTA

suggestions to hold "pipeline" money until the courts decide whose agent a travel agent is—the customer's or the tour company's—are, in fact, ready to give into client pressure and repay the cash.

Some companies have already done this, knowing that they risk legal action from the Court Line liquidator as a result.

Travel agents have had enough, said Mr. Law. "And," says ABTA, "they are embarrassed about it and anxious to pay the money back to their customers."

Request for new textiles quota allocation

Financial Times Reporter

THE BRITISH Importers' Confederation has asked the Government for an additional quota allocation on textiles and clothing for this year to allow outstanding contracts to be fulfilled.

Although the confederation stressed yesterday that it was not opposed to quota restrictions for these goods, it said "years of import restrictions would result in higher prices and scarcity of some textile and clothing products from the Far East."

"We calculate that certain garments from Hong Kong and Taiwan will increase in price by some £2 because the Government failed to appreciate the extent of outstanding contracts when import quotas were introduced last month," it added.

Consumers would suffer, and importers have to break contracts with their suppliers and their buyers. Some goods were re-exported, and this market would be lost.

Equitable Life offers flexible insurance plan

By Eric Short

THE EQUITABLE Life Assurance Society, the oldest mutual life company in the U.K., yesterday launched a flexible savings plan. This is an open-ended traditional life policy where the policyholder can cash in his contract at any policy anniversary, on or after 10 years at amounts that are guaranteed, at the outset. The policy will participate in the profits of the society so that the guaranteed amounts should be increased by reversionary and terminal bonuses.

Traditional life companies have been criticised in the past for a too-rigid approach to the marketing of life insurance. Investors have had to decide at outset the term of investment and this could only be altered on penal terms. The disadvantages of this stance were shown when the unlinked life companies started marketing open-ended contracts. Companies that have sold flexible policies have found the public likes them.

The new plan has two novel features. Firstly, the policyholder can increase his outlay, and hence his savings, each year in line with the cost of living, thus providing some degree of inflation-proofing. Secondly, he can cash in his original investment and take out a fresh policy, again without evidence of health, for the same premium, thus continuing his life cover.

Hauliers consider register

By Terry Dodsworth

Motor Industry Correspondent

WIDE-RANGING PROPOSALS involving establishment of a register of approved members and a co-operative buying venture will be considered by the Road Haulage Association at its council meeting tomorrow.

The scheme has been drawn up in response to growing anxiety about the stability of the industry, heavily under pressure from the low level of industrial activity.

Many general hauliers have gone out of business under the effects of widespread price cutting, and estimates suggest that the industry earns an average return of only 4 per cent. on investment.

Under the scheme, drawn up by a former president of the association, Mr. John Wells, members would have access to figures of minimum earnings needed to operate a profitable business.

Capital and Counties sells London site to Iranians for £7m

BY MARGARET RED

CAPITAL AND Counties Property, which recently cut its dividend to a nominal rate, has now sold the freehold of its Abbey House site, opposite Westminster Abbey, to the National Iranian Oil Company for some £7m-£8m.

A plan had previously been in a well-advanced state of consideration for Capital and Counties, then owners of the site to develop it as the £18m. prestige headquarters planned by the NIOC.

Now, the Iranian company will itself arrange for the construction of the building, though using Capital and Counties designs.

Mr. Dennis Marler, joint managing director of Capital and Counties, confirmed yesterday that the freehold of the site, in Victoria Street, London, had been sold to the NIOC with planning permission and with the site drawings.

He declined to disclose the price of the deal, which was completed 11 days ago. It is believed, however, that the sum was in the

Forecast

Capital and Counties' earlier this month, the company's accounts were expected to show a drop in consolidated net profit from £116m. last year to £85m. No greater than the reduced nominal share will be paid, shares have been sold, until satisfactory financial arrangements are made with the U.K. development. Profits for 1974-75 have been forecast at a reduced £1m. not less than £1m.

R-R awaits ruling on aero-engine link

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

PLANS for co-operation between Rolls-Royce and Pratt & Whitney of the U.S., on a number of major new aero-engine programmes are now in an advanced stage, and are understood to have been laid before the U.S. Department of Justice.

This is a necessary procedure to ensure that any agreement entered into by the two companies does not violate the anti-trust or other U.S. laws.

Only when clearance has been received from the Justice Department is a formal collaborative agreement likely to be signed.

The proposed "package deal" between the two companies, which follows several months of talks, includes participation by Rolls-Royce in development of the Pratt and Whitney JT-10D engine for the next generation of medium-range civil airliners, and work on a new 5,000 lb. thrust engine for small business jets.

The proposed deal is regarded as vital by Rolls-Royce because it gets the U.K. company into the so-called "ten-ton thrust engine" market. These are engines of the thrust exceeding 20,000 lb. planned for the next generation of civil airliners such as the Boeing 747 and any European medium-range venture that may be started.

A rival engine in this market, the CFM-56, is already being engine markets for the future.

Hopes for Jensen rise

BY PETER CARTWRIGHT, MIDLANDS CORRESPONDENT

HOPES OF being able to salvage a viable operation from Jensen Motors, put into receivership last week while the 700 employees were on holiday, rose appreciably yesterday.

The financial problems of the West Bromwich company, owned by American millionaire Mr. Kjell Qvale, were conveyed in detail for the first time to shop stewards and full-time union officials.

It was explained that management intended to maintain production and create long-term viability. "We are not considering redundancy," Mr. Albert Goot, a colleague of Mr. Qvale and managing director at Jensen, told the meeting.

The labour force was about right to make around 10 of the big Interceptors and 35 of the new Jensen GT sports cars a week. There are sufficient stocks for 10-12 weeks' production.

Mr. R. Williams, for the Official Receiver, also expressed the intention to keep Jensen functional and viable, "if every one knuckles down to it."

After last week's news, most of the employees expected to follow the labour force already been halved. Yesterday's management state were certainly more hopeful than re-assuring.

On their part, the shop stewards promised to encourage employees to work more effectively. Problems were among the 100,000 going into the hands of receivers.

Mr. Kevin Beatty, a budding automobile engineer, skills were expressed in at the Jensen Interceptor introduction 10 months from design stage, has died Birmingham hospital, aged 35. Educated at a Gresham School, Norfolk, Mr. Beatty began pupil engineer at R Coventry (now Chrysler), after a spell with Rover Australia, joined Jensen in late 1960s.

His work in connection with the Interceptor and the model included commercial negotiations. He leaves a widow and four daughters.

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CT 19

Call to end dust problem

BY DAVID FISLOCK, SCIENCE EDITOR

A CALL for a 20-year programme to eradicate problems of dust in industry was made by Mr. Bryan Harvey, deputy director-general of the Health and Safety Executive, at a symposium in Edinburgh yesterday.

The benefits of success would be a significant increase in life expectancy for many people, said Mr. Harvey.

Of all the things his executive could do, which would have measurable results in reducing sickness and ill-health caused by working conditions, "I would think that the conquest of indus-

trial dust would be at the top of the list," he said.

Mr. Harvey's proposal, made at an international symposium on inhaled particles and vapours, organised by the British Occupational Hygiene Society and the European Communities, comes just one week before Britain introduces the first regulations controlling dust in coal mines.

From September 30, all British mines employing more than 30 people underground—in effect, all mines operated by the National Coal Board—will be required to meet stringent standards of dust control and

ventilation, limiting the amount of dust present in the atmosphere. Until now, dust levels have been limited by a "gentlemen's agreement" between the industry and the miners.

What he had in mind next, Mr. Harvey explained yesterday, was a national dust control programme sponsored by the Health and Safety Executive, in which medical officers and others would be invited to participate. He had already embarked on a feasibility study to see how such a programme might be carried out.

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Assets:	Liabilities:
Current Assets.....388,879	Current Liabilities.....233,340
Fixed Assets.....400,030	Non-Current Liabilities.....400,030
Tangible.....434,724	Reserve.....151,258
Intangible.....2,199	
Investment.....62,541	Shareholders' Equity.....703,775
Total.....888,403	Total.....888,403



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هكنا من الناحية

By Our Labour Staff

THE Association of Professional Executive, Clerical and Computer Staff has decided to picket the Earls Court Motor Show next month unless the Government takes effective steps to curb imports of foreign cars.

The decision was taken by the union's executive, which also plans to make a new approach to the Government to press the case for import restrictions following the return of Mr. Peter Shore, the Secretary for Trade from Japan.

The executive also decided that the full £6-a-week rise allowed under the new pay policy should be sought for APEX members. But it expressed its willingness to settle for less in exceptional circumstances if a smaller rise could be traded in for job security where that was of prime importance. In such circumstances, the union will seek the maximum possible rise.

Triangle valve factory in Wigan yesterday began banning over time in protest at discrimination. Two young men have been offered day release training while three girls in the same office had similar requests refused. The company denies discrimination and maintains that training facilities are available to all employees "necessary" in the mutual interests of the company and the employees concerned.

CHAIRMAN

MANAGING DIRECTOR

FINANCIAL DIRECTOR

COMPANY SECRETARY

MARKETING DIRECTOR

GENERAL SALES MANAGER

EXPORT MANAGER

MAINTENANCE ENGINEER

SALES REPRESENTATIVE

When other Car Transport depots heard on Friday that Silcock and Colling wanted only 20 of the transporter drivers, trade-plate drivers and yard staff out of the 48 at the Towley Road depot, the latter immediately went on strike.

A meeting of drivers yesterday decided that unless Silcock and Colling gave a written guarantee as to the future employment of BRS employees, a full-scale stoppage would be called on Thursday.

The changeover of the contract does not take place until the end of the month.

Last night, Silcock and Colling's London HQ said the company was being investigated and the company would honour its commitments.

NEXT week's Labour Party conference at Blackpool, was threatened with a strike by Transport House Press and office staff, until the General secretary, yesterday, agreed that the staff should receive a 10 per cent conference payments—their hotel bill plus 50 per cent. of this as expenses. Earlier, Mr. Hayward had asked the staff to consider a similar gesture to that of the members had agreed to reduce their conference expense allowances to £20 because of the Party's serious financial position. Yesterday morning the chairmen, Mr. W. St. John and Mr. Phil Wyatt, of the Research Dept., told Mr. Hayward that at a meeting last week the Council had rejected his proposal and had indicated that if there were any more demands on the staff to accept it, they would refuse to work at the conference.

THE National Union of Seamen's call on its members to refuse to sail ships trading with Chile looks likely to fail its first test this week following a seamen's meeting in Liverpool yesterday which called on the union to revise its decision.

The Pacific Steam Navigation Company is the only British shipping line which could be seriously hit by the NUS call but about 40 crew members of the company's freighter Ortega, which is due to sail to Chile on Thursday, decided yesterday that they would ignore their union's line.

By Our Labour Staff

MEMBERS of the National and Local Government Officers Association plan to stage a mass lobby of the Greater London Council to-day to protest against possible staff cuts.

The union expects at least 1,500 members to turn up for the lobby at County Hall, which is part of NALGO's increasingly vociferous campaign against redundancies in the public sector.

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Sir Keith Joseph attacked on housing

A LABOUR MP hit out yesterday at what he called the "ghetto" approach to housing by Sir Keith Joseph, the Shadow Cabinet policy-maker.

Mr. William Molloy, in a message to his North Ealing constituents, denounced Sir Keith's reported comments at a weekend conference in Oxford that public sector housing should be confined to providing for the elderly and the disabled.

"I find this a vulgar and cruel policy. What he is really advocating are ghettos to be filled only by the old and the crippled - this is a policy of a crippled mind," he said.

Mr. Molloy asked: "Does Sir Keith really want a situation where one can look at a map and see what category of people live where?"

'Slower and surer' call to oil companies

BY ADRIAN HAMILTON

EVEN TAKING INTO account inflation and the impact of the oil crisis, the rate of return in an offshore oil project, oil companies are still better advised to withhold firm development plans until they have fully proved a field according to a U.K. consultant's group.

Speaking at the Society of Petroleum Engineers in Dallas, Texas, yesterday Mr. P. D. Gaffney and Mr. T. F. Cox of Gaffney Cline and Associates said that the "really major factor" in any profit calculation of an offshore field might be less that of a delay in starting production than in experiencing a shortfall on production expectations.

The conclusions of the detailed risk analysis calculated by the consultants' group, they said, generally accepted a view of offshore development, and may explain the slowing in new North Sea projects.

Although the Government is putting the main emphasis on cost inflation as a negative factor in the North Sea, Mr. Gaffney said, the Government has commissioned a study, Mr. Gaffney's and Mr. Cox's paper suggests the economics of offshore production make economic sense more cautious about the rate of return in an offshore oil project, oil companies are still better advised to withhold firm development plans until they have fully proved a field according to a U.K. consultant's group.

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HOME NEWS

Airlines seek 10% fares rise soon

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

FARES on many world air routes may rise by up to 10 per cent. on November 1 if Government approve plans by the airline-members of the International Air Transport Association.

The rises are sought to cover the airlines through the coming winter not only against recent rises in fuel and other costs, but also against other cost-increases known to be in the pipeline.

The dearer fares will take the airlines over until April 1, when further rises of 8 to 10 per cent. are expected. These latter increases are being discussed by the airlines at a series of meetings in Geneva, and will continue in the month and into October.

The November rises, however, are expected to be 10 per cent. on European routes, 7 per cent. on Middle East and African, 4

per cent. on North Atlantic, with 16 per cent. on some Mid- and South Atlantic routes.

The biggest single factor dictating the further rises is cost of fuel. Mr. Knut Hæggen, president of IATA, has said that airline-members have lost \$1.5bn. in 1974-75, of which \$800m. is the shortfall between rising fuel costs and increases in air fares already introduced.

The rise in fuel bills has continued this year, and is still well over what the airlines can cover through fare increases.

They fear fuel bills will rise further this winter, especially if OPEC puts up crude oil prices at its forthcoming Vienna talks.

If other general inflationary increases are taken into account, such as pay, route navigation charges, landing fees, the airlines' revenues collectively run behind the rise in costs.

It is probable, therefore, that the existing \$800m. gap is widening and it is the need to correct this situation that obliges the airlines to seek dearer fares, even though they realise that this may depress traffic growth and delay recovery from the current air transport recession.

Better air service to Birmingham

By Michael Donne, Aerospace Correspondent

BIRMINGHAM is to have improved air service from London's Heathrow, as a result of an operating agreement between British Midland ways and British Air regional division, subject to approval.

From November 1, there will be three BMA jets in back direct to Birmingham in addition to the current BA daily return service.

The main benefit will improve connections Birmingham business flights from Heathrow to world destinations. Many Midlands travellers had to spend several hours getting to Heathrow.

The services will also be easier for overseas to reach the new N Exhibition Centre at Birmingham Airport.

Mr. Michael Bishop, acting director of BMA, the airline, expects in 1975 over 50,000 passengers to use the service. The airline's 50-seat Dart Herald prop-jet airliners for the B

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Interest will be made on 15th September 2040 at the rate of 9 per cent. of the nominal value of the Stock. Interest will be made on 15th March 2041 at the rate of 9 per cent. of the nominal value of the Stock. Interest will be made on 15th September 2041 at the rate of

Stop talking about productivity and do something about it.

Productivity is a subject that's been talked into the ground. And yet you only have to mention industry or the state of the nation and someone still chirps up with productivity.

So it's with some pride we can say we've done more than talk.

By developing a radically different type of duplicator, we've significantly increased the productivity of a print-room.

It's called the Xerox 9200 Duplicating System.

In test runs, it's pushed up productivity by 30%. And in the right environment, that figure could be even higher.

The key to the Xerox 9200 and the reason it's so productive, is its flexibility.

It will not only work at the rate of 7,200 prints an hour on a straight run, but with the Automatic Feed and Collator, will produce twenty copies of a ten page report in under two minutes.

And despite its high speed, it

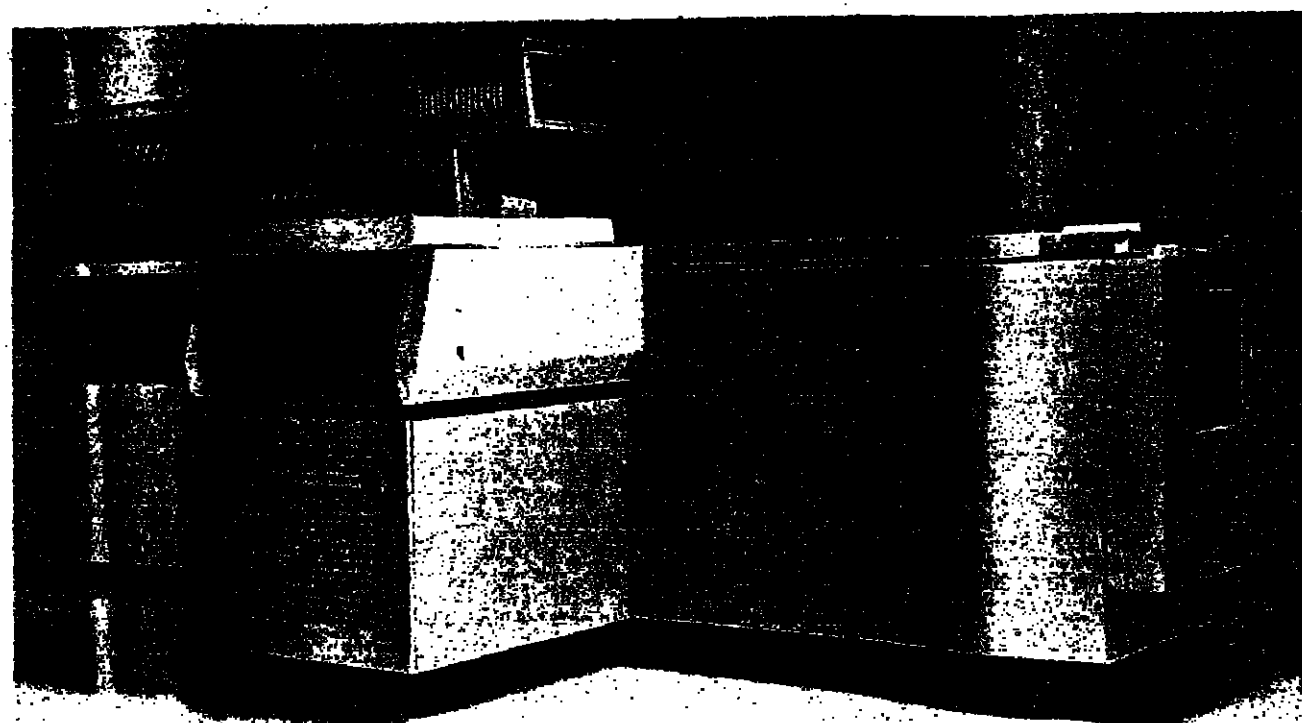
still produces very high quality prints comparable with any offset printer.

Nevertheless, it's not a system that will suit everyone. Only a company with enough of the right kind of work will want it.

But for those people it could make a big difference.

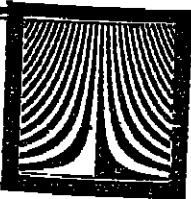
The difference between talking about productivity and achieving it.

You can start doing something right now. Ring Uxbridge 51133.



The new Xerox 9200 Duplicating System.
The difference between talking about productivity and achieving it.

RANK XEROX
Helps you do, what you do, better.



The Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

COMMUNICATIONS

Trials date for Viewdata

WITH THE future for Teletext—displaying the steps on the screen by which viewers can obtain broadcast alpha-numeric information on their screens by keying requests into an appropriately equipped domestic TV set—still hardly clear cut, the Post Office has revealed that pilot trials of its own phone network-based system, called Viewdata, will start in January 1976, involving both equipment and information suppliers.

Purpose of the trials will be to establish some idea of the range of information needed, how charges might be made and what the demand is likely to be. Full marketing trials could start at the end of 1977, with the prospect of a full service by 1978-79.

A GEC 4080 processor will be used at the Post Office research station at Martlesham following development there of appropriate software, and a further 4080 has been ordered. A response time of about two seconds for 200 simultaneous users is planned.

Although customer prospects for such systems seem a little thin under current economic circumstances, the Post Office is presumably forging ahead on the basis of being able to provide an interactive system over a ready-made copper network, with a number of long-term advantages.

Hardware in the subscriber's home or office would include a telephone, a modified television set and a hand-held keypad. Linked to a distributed network of computers and supporting data bases, users would need no special skills or training since the computer prompts them by

Racal shows the way

THE FAST growing electronics group, yesterday presented in London, its sixth and largest exhibition of communications systems.

Over 1,000 buyers are expected to attend on each of the three days of the exhibition which was formally opened by Mr. Roy Mason, Secretary of State for Defence.

It is difficult to say which of the many new products on show should be acclaimed as having pride of place, but it seems that

they are inserted to completion of the transparency takes less than 4 seconds.

Originals can consist of any medium which absorbs infrared heat—permanent black ink, B grade pencils, spirit-based felt tip black pens, and printed and typewritten material. The lamp is switched off automatically if the unit overheats or is placed upright.

Vertical plotter

MAIN ADVANTAGE claimed for the model 980 vertical plotting system announced by CalComp is that it provides exceptionally high throughput of good quality ready for use. Originals can be drawings on pre-printed up to 8½ inches wide and any stationery up to 33½ by 59½ inches.

TRANSPORT

Stops them in their tracks

BALFOUR Beatty Power Construction and British Industrial Plastics (Turner and Newall Group) are to explore the manufacture, design, marketing and installation of a formaldehyde foam vehicle arrester beds.

These can be installed at strategic points to prevent aircraft, trains or other wheeled vehicles from over-running in the event of brake failure or other mechanical malfunction.

Manufacture of the foam resin and design of the beds will be carried out by British Industrial Plastics, while Balfour Beatty Power Construction will be responsible for marketing the system and for its installation.

Advantages of the foam as an arrester bed material are that it ensures effective deceleration with little or no damage to the vehicle. It also permits easy extraction of the vehicle and is a non-flammable permanent device, requiring little maintenance.

The patented system, which has been developed by British Industrial Plastics, after 10 years research work and trials, has already been installed on track used to test the prototype Advanced Passenger Train.

Tests brakes and lights on trailers

ONE MAN can check trailer brakes and lights with an automatic testing device available from CDI, The Forge, Ladbroke, Leamington, Warwickshire.

The unit provides continuous cycling of brakes on and off using either the service or third lines. This enables mechanical faults to be checked visually, and the braking system can be shut under full pressure to check for leaks. The emergency line can be tested, and the low pressure warning light checked for operation and cut-in pressure.

Each lighting circuit is tested on a switched time cycle. If a fault is found, a manual override halts the sequence while the circuit is checked.

Called Trailcheck, units are available with an integral air supply and a battery condition meter, and can be used as battery rechargers and tyre inflators.

COMPUTERS

European data net

DECISIONS as to the final form of the European communications network which will ultimately carry vast volumes of data from one country to another are still awaited.

The European Implementation Study carried out by the Netherlands Group, Pandata, has been accepted but it is understood, not all the recommendations put forward meet the requirements of the EEC group entrusted with the study of the eventual system and with seeking its acceptance by the many PTT organisations which will be involved.

The Pandata recommendations that the system should be based on the MIRA minicomputers (CIB) is understood to have been put on one side so that the chances for Ferranti (RPS) and its German rivals are still wide open.

Detailed means of providing the multi-national service are still under discussion and although

ELECTRONICS

Glass felt copper-clad laminates

GLASS FELT copper-clad laminates for printed circuit board manufacture are being introduced by Bakelite Xylonite. They are HW 70432, an epoxide resin bonded non-woven glass felt reinforced with Bakelite Xylonite, and HW 70433, a similar material, but with woven glass fabric on each face.

The HW 70432 grade gives mechanical properties between those of epoxide woven glass fabric laminates and phenolic paper laminates. Other physical and electrical properties approach those of epoxide woven glass fabric laminates.

HW 70433 is said to offer mechanical properties approaching those of epoxide woven glass fabric laminates and its other properties are similar.

To meet anticipated growth, a £2m. modernisation programme for Bakelite industrial laminates manufacture is in progress at BXL Thermosetting Division's Tyeley plant.

BXL, 129 Marylebone Road, London NW1 5QE (01-402 4255).

Welding difficult profiles

ELECTRONIC components, consisting of a stainless steel tubular "T" joint, have been welded by an electron beam using a profile following device. The tubes were one inch, and ½ inch, in diameter, and 1 mm thick, and were joined in 1½ minutes.

The system is said to lend itself to any shape or profile, provided the rate of change is not too great, since it uses one of the unwieldy components to generate the required profile.

The system was developed by Vacuum Thermal Processes, of Edison Road Industrial Estate, St. Ives, Huntingdon, Cambs. PE17 1JL (0480 65511), using Westgate Engineering machines, of which company it is a subsidiary.

LUBRICATION

Lubricant for hot bearings

BEARINGS in kiln cars, glass-making machinery, furnaces, baking ovens, etc., can be lubricated with Guardian 404 which has been developed to give continuous protection in working temperatures up to 250 deg. C. and for protracted periods at substantially higher temperatures, says the maker, Guardian Barrier Lubricants, 92 Foxbury Road, London S.E.4 (01-692 2592).

It is neither a grease nor an oil, and is described as a semi-fluid composition somewhat softer than grease consistency.

Up to 50 input or output lines can be dealt with and setting up times are short, being dependent only on sliding switches on a patch panel to connect power supplies, signals, etc. to the circuit under test. Built in are signal and pulse generators, dual power unit, display LEDs and meters. In addition the inputs and outputs of four NAND gates (and any other logic op-

tionally fitted within the unit) are available on the front panel. The unit measures 23 x 19 x 16 inches.

The main growth-factor in industrial exports has been the upsurge of new industry under the Governments programme of tax relief and incentives. Both Irish and foreign-owned firms are active in sectors such as engineering and metals, chemicals and pharmaceuticals from which the bulk of export expansion has come.

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Tel: Aylesbury (0296) 5911

Clevedon Rivets & Tools Ltd
Reddipac Trading Estate,
Sutton Coldfield,
West Midlands B75 7DG.
Tel: 021-354 5238

CU choice of database

COMMERCIAL Union Assurance Company has chosen the Adabas data base management system for a lengthy evaluation of competitive software.

The initial contract with the supplier, Adabas, provides for the immediate installation of the system on the IBM 370 model 158 at the Commercial Union Computer Centre, Whiteleaf, Surrey.

Following the order of the system, the new systems being developed and decided to undertake evaluation of available software. After examination of the

composed of a heavy non-carbonising synthetic fluid with a high content of interacting heat-resisting lubricating solids to provide both low friction and high load-carrying properties.

It is said to adhere to bearing surfaces at normal temperatures and lubricates them with an oily film up to 250 deg. C. when the fluid component volatilises, leaving lamellar solids to form a protective burnished coating on the moving parts. This is effective up to 1000 deg. C. in a neutral atmosphere. It is unaffected by super-heated steam, water and most chemical solutions.

AN ELECTRONIC air/fuel ratio control system for use with all types of industrial combustion equipment and claimed to be effective over the whole load range has been put on the market by the combustion division of Hamworthy Engineering, Poole, Dorset (02013 5123).

The purpose of the equipment is to initiate rapid and reliable regulation, limit excess air to the lowest possible level and correct fuel-rich or fuel-lean conditions.

To provide the necessary feedback of data, fuel and combustion airflows are measured by vortex-shedding meters in the case of gas and air and a turbine meter for oil.

The vortex meter is a U.S. design based on projecting an ultrasonic beam at 140° KHz across the duct in which a signal is positioned, the latter causing the fluid to "shed" vortices into the stream. These modulate the ultrasonic signal and the modulation frequency is converted to proportional dc via the receiving transducer and appropriate circuits.

The sensors are connected to a signal conditioning card and then to a control card which generates safe changes in the load and maintains correct excess gate Engineering machines, of which company it is a subsidiary.

An indication circuit board transmits flow outputs to a recorder and the computed excess air figure to a meter, and also provides alarm and shut-down functions for out-of-balance conditions. Finally, an output card generates signals for control valves and damper positioners at 4 to 20 mA.

The first orders for the system have already been placed by British Steel Corporation and by a power station in Iran.

Tests small batches

RAPID TESTING of single or small batches of printed circuit boards can be carried out with the P-2050 test set put on the market by Applied Digital Devices, Bridgenfields, Welwyn Garden City, Herts (Welwyn 33491).

Up to 50 input or output lines can be dealt with and setting up times are short, being dependent only on sliding switches on a patch panel to connect power supplies, signals, etc. to the circuit under test. Built in are signal and pulse generators, dual power unit, display LEDs and meters. In addition the inputs and outputs of four NAND gates (and any other logic op-

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LAINI

LOCAL OR NATIONAL CONSTRUCTION SERVICE

MACHINE TOO

Heavy duty saw to cut concrete

HYDRAULIC drive provides a 16 hp air-cooled 4-cycle and Stratton engine. Power Model 16" concrete saw. Portsmouth, New Hampshire (703 815411). A Uniform Sales Group company.

Cutting depth is up to 5½ inches. A 14-inch diameter saw weighs 334 lb. A wheel is set within the piece welded steel frame. The saw is easy to maneuverability and easy to make cuts close to other features include a mastic water-guard switch, flip-up blade guard and cutting.

PACKAGING

Air bags protect the goods

INFLATABLE damage to the protection of goods in are to be marketed by S. Queensway, Forestbank, Essex, GL50 3AA.

The bags are made from multiple layers of a film, a tough cross-linked around an inner polyethylene bladder. The scientific strength of the laminate density polyethylene is said to give good shock absorption and offer high resistance to punctures.

Prodding, irregular surfaces is said to be Normal operating pressure from 0.05 to 0.3 kg/cm². The bags are said to be bent upon the load, cargo gap to be filled. The cargo gap to be filled. The cargo gap to be filled.

Capacity is 750 feet of 0.004 inch tape on reels and widths from five to eight channels can be handled. The unit measures about 60 x 22 x 30 inches.

The vortex meter is a U.S. design based on projecting an ultrasonic beam at 140° KHz across the duct in which a signal is positioned, the latter causing the fluid to "shed" vortices into the stream. These modulate the ultrasonic signal and the modulation frequency is converted to proportional dc via the receiving transducer and appropriate circuits.

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Wells Fargo Bank

LONDON: Wells Fargo Limited; Winchester House, 80 London Wall; London E.C. 2. LUXEMBOURG BRANCH: 22, rue Zithe, Luxembourg. FRANKFURT: Lindenstrasse 35, 6 Frankfurt am Main 1. MADRID: Hotel Eurobuilding Of. 8, Juan Ramon Jimenez 8, Madrid 16. PARIS: Credit Chimique, Credit Chimique Building, 20 rue Treillard, 75008 Paris.

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هكزا من الرطل

Set of Applications will open at 10 a.m. on Thursday, 23 September, 1975, and close at any time thereafter on the same day.



CITY OF COVENTRY

ISSUE OF
£10,000,000 City of Coventry Council
13½ per cent. Redeemable Stock 1980

Price of Issue £99.50 per cent.

As follows:
On 22nd October, 1975 £20 per cent.
On 22nd November, 1975 £20 per cent.
On 22nd December, 1975 £20 per cent.

Interest (less income tax) will be payable half-yearly on 15th June and 15th December.

First interest payment of £1.25 (less income tax) per £100 Stock will be made on 15th June, 1976.

The Bank (London and International) Limited, New Issues Department, P.O. Box 121, London Wall Building, London Wall, London, E.C.P. 201, are authorised to accept applications for the issue of the above amount of stock in accordance with Resolutions passed by the Council on 19th September, 1975.

SECURITY—The Stock and interest thereon will be secured upon all the assets of the City of Coventry Council.

REDEMPTION—The Stock will be redeemed at par on 15th June, 1980 unless previously cancelled by purchase in the open market or by the holder.

INTEREST—Interest (less income tax) will be paid half-yearly on 15th June and 15th December by warrant, which will be sent to the holder's address.

APPLICATIONS—Applications for the issue of the above amount of stock should be made to the Bank (London and International) Limited, New Issues Department, P.O. Box 121, London Wall Building, London Wall, London, E.C.P. 201.

Applications must be for a minimum of £100 Stock or in multiples of £100 for applications up to £2,000 Stock.

Applications above £2,000 Stock and not exceeding £25,000 Stock in multiples of £1,000.

Applications above £25,000 Stock in multiples of £5,000.

Applications must be accompanied by the following details:

1. Name and address of the applicant.

2. Name and address of the person to whom interest warrants should be sent.

3. Name and address of the person to whom the stock should be sent.

4. Name and address of the person to whom the stock should be sent.

5. Name and address of the person to whom the stock should be sent.

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18. Name and address of the person to whom the stock should be sent.

19. Name and address of the person to whom the stock should be sent.

20. Name and address of the person to whom the stock should be sent.

APPOINTMENTS

W. S. C. Richards leaves Board of Rothschild Invest.

Mr. W. S. C. Richards, as a result of his increasing responsibilities as group finance director of N. M. Rothschild and Sons, has resigned from the Board of Rothschild Investment Trust.

He remains chairman of the Enstock Engineering group of companies, wholly-owned subsidiaries of Rothschild Investment Trust.

Mr. Roy K. J. Roberts has been appointed of GUEST, KEEN AND NETTLEFOLDS. He is chairman of GKN Engineering and of GKN Building Supplies and Services and a director of Guest Keen and Nettlefolds (L.K.).

Mr. S. F. Creighton, director of finance, THORN LIGHTING, has been appointed director responsible for organisation and administration of the company. Mr. S. F. Boucher, recently finance director of the Gas Division of Thorn Domestic Appliances, will join the lighting division as director of finance from October 1.

Mr. Kenneth Gorrod, has been appointed financial director (designate) at AIRFIX PRODUCTS and Mr. Raymond Radford, company secretary, Mr. Gorrod joins Airfix from Cooper Lybrand Management Consultants, where he was senior consultant for 3 years. Mr. Radford came to Airfix from Burton Slaven, of Dorking, Surrey, where he was company secretary for ten years.

Mr. J. M. Cameron has been appointed director of ELLERMAN LINES.

Mr. John Cain has been appointed deputy regional commissioner for NATIONAL SAVINGS for the South Eastern Region in succession to Mr. Denis Kellaway, who at already reported, has been transferred to National Savings Committee headquarters in London. Mr. Cain, who comes from Gwent, has been district commissioner in South Wales for the last ten years.

Mr. Robert D. Shelton has been appointed vice-president for Eastern Hemisphere marketing of PROCON INC., UOP's international engineering construction subsidiary. Mr. Shelton comes from Procon headquarters in Des Plaines, Illinois, where he has been vice-president for marketing development since early 1973.

A new planning group for corporate development and marketing policy has been formed within SIAP-SKOGGELL. Head of the department will be Mr. Clae G. Hall. Other members will be Erik Syll, director of corporate planning, and Peter Lindstedt, manager, long range market planning. The changes are effective from January 1 next.

The following have been appointed to the Board of ACTION FOR PROFIT, the consortium of independent specialist consultancies: Mr. Andrew Bainbridge, a director of Grafton Public Relations; Mr. Richard J. Biggs, a partner in Richard Birds and Associates of Tulsa, Oklahoma; Mr. Alan G. Thompson, managing director of Productivity Consulting Services (Edinburgh).

Mr. Peter Shore, Secretary of State for Trade, has appointed Sir Henry Phillips a member of the Civil Aviation Authority from November 1 in succession to Mr. Norton-Morling. Sir Henry is a director of SIFDA Investment Company.

The Minister has appointed two new members of the ENGLISH TOURIST BOARDS: Sir Ian Sherman for two years and Mrs. Anne Yates for three years. Sir Ian is chairman of the London Boroughs Association and Mrs. Yates is leader of the Conservative Group on Nottingham County Council.

Mr. Peter Harris, of Knarborough, Yorkshire, has been elected president of the INSTITUTE OF QUARRING for 1975-76.

Mr. Fred Muller, Secretary of State for Education and Science has made the following appointments to the MEDICAL RESEARCH COUNCIL: On October 1, Professor A. J. Butler (Professor of Physiology, University of Bristol); Professor A. P. M. Forrest (Regius Professor of Clinical Surgery, University of Edinburgh); Dr. R. Kay (Vice-Chancellor, University of Exeter) and Dr. Cleely M. S. Saunders (Medical Director, St. Christopher's Hospital, Swindon). On the same date Sir John Gray, the present Secretary of the Council, will become deputy chairman of the Council. Dr. J. P. Bull, Dr. G. C. Davey and Professor E. B. Wells have retired on completion of their normal periods of service.

Mr. A. M. Macleod-Smith has been appointed managing director of NORTH SEA SELECTION COMPANY, a subsidiary of Selection Trust.

INTER-CONTINENTAL FUELS, the international coal trading and development company, has strengthened its Board and its shareholding in order to expand more rapidly its international

FALCONBRIDGE

DIVIDEND Number 120

Notice is hereby given that a quarterly dividend of Twenty-Five Pence (25p) per share is being paid by the Board of Directors of Falconbridge Nickel Mines Limited, payable in Canadian funds on September 30, 1975 to shareholders of record at the close of business on September 10, 1975.

By Order of the Board
G. T. N. Woodroffe
Secretary

Toronto, Canada
August 22, 1975

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The Executive's World

EDITED BY JAMES ENSOR

Rollei, after severe financial troubles, has a new chief and a new strategy. James Ensor reports from Brunswick

Bringing new products out of 'the kitchen'

LEL perhaps Europe's most ambitious idea of moving most of its camera manufacturing, is fighting desperately for its life. A new chief executive, Mr. Peter Peperzak, a man who marketed Canon successfully in Germany, is now in charge of the company's strategy and new products. The company's banking partners, the Nord-Deutsche Bank and the Deutsche Bank, are working to save the business. After a substantial write-down of its assets, last year, it is far from healthy. But it is, at last, a sign that the company may have, finally, found the right formula for success.

Rollei's problems have been of the German camera industry, in general. Indeed, the problems which European—and particularly British—companies have faced as their products and margins have been overtaken by dynamic, often Japanese, companies. Rollei, which relied too long on its famous twin-reflex camera, found a rival in the Japanese companies, Asahi, Canon—sweeping through its markets, with more modern single lens reflex cameras. Often, using German ideas, the Japanese have been better marketing, better market awareness and lower

laurels

many as 12 years ago, it was in financial trouble, its products had become expensive and its sales had fallen. A family-owned company, it had relied on its laurels, and failed to keep up with the times. Dr. Rich Poesel, a man trained in electrical engineering, was brought in to revive the company and started by sack most of its management.

Poesel had the intelligent and ambitious idea of moving most of Rollei's production, stock and barrel to Singapore, where it would find wage rates just one third of the Japanese and one-sixth of the German level. Since the local Singapore Chinese and Malays had a strong reputation for fine work and for dedication to quality and there was an abundant pool of labour available, the strategy seemed both logical and daring. Cameras are largely labour and design intensive, since little automated machinery can be used in their construction and assembly is a painstaking process of fitting little pieces together and testing them over and over again.

Difficult

Even today, few doubt that the move to Singapore was right. But unfortunately it proved more difficult and more expensive than had been anticipated. Rollei had to fly hundreds of its technicians from Brunswick to train the Singapore workers and establish the plant and these had to be paid at more, not less than German wages. It had to bring plenty of Singaporeans back to Germany and the sheer speed with which the transition had to be accomplished placed the usual penalties of disorganisation and muddle on the operation.

As the new chief, Mr. Peperzak, explains "it was done very quickly and technically it was an enormous piece of work—it is astonishing how it was done." But he adds "the commercial organisation was the weak part. It tended to overlook the financial consequences of what they were doing." The write-off of DM345m, on top of a DM52m trading loss, last year, was one

primarily caused by the excessive costs of establishing the Singapore operation.

There appears also to have been a failure to think through the demands of the market and to translate them into appropriate products. Through taking over the Zeiss and Voigtlander interests in the amateur camera business, Rollei had acquired a reasonably strong line in slide projectors and in both pocket and 6 x 6 cm cameras—but it still lacked a really competitive 35-mm single lens reflex camera, or a really good movie camera, and those are big markets.

As a result of poor product planning, the large Singapore facility, which is beautifully equipped, has not been properly exploited and both that and the Brunswick operation have been overstaffed and overmanned. The 1975 recession in the camera business struck just as the new plant should have been building up to maximum output, whilst D-Mark revaluations have done little to help the competitiveness of the German plant.

Inventory

Mr. Peperzak's first move, therefore, was to make "a complete inventory of everything that we had in the kitchen." As a marketing man, with a long experience with a Dutch trading company latterly responsible for their Canon camera business, he put product development in response to market needs as the top priority.

He set a series of priorities for both the Rollei and Voigtlander marques, which he intends to manufacture and market in tandem with Rollei covering the medium price range and the lower end of the premium market. Voigtlander, overlapping in the middle range and covering the more expensive end of the bottom range. If



Mr. Peter Peperzak with some of the Brunswick workers on whose dedication Rollei's future, in part, depends

Leitz in the top class, Minolta, Pentax and Olympus in the middle and Yashica and Ricoh on the lower, he intends that Rollei should be towards the lower price bracket of the top group and Voigtlander squarely across the middle and extending into the third.

The first product to emerge, however, the A 110 miniature camera was "already existing" when Mr. Peperzak arrived. He put it into production at Brunswick immediately and it has achieved an enormous success since its launch, despite the fact that it is much more expensive than most cameras in this class. With over 90,000 sold, at a price of DM500 (rather more in Britain) Rollei has more than a year's work in hand. The success of the A 110, particularly in the U.S. where Mr. Peperzak pressured his distributing company to triple its orders, they still have too few to meet demand, has helped edge Rollei's turnover upwards, this year.

The marketing company in the U.S.—which accounts for 40 per cent of the world camera sales—has been beefed up and new collaborative ventures have been set up in Singapore, Hong Kong and Japan—which accounts for another 15 per cent of world demand. As Mr. Peperzak says: "We will have to have market research, product planning and purchasing people in Japan, for you can learn a lot from the Japanese."

The A 110, an ingenious camera, has even sold well in Japan, where its high price has evidently been no deterrent to the world's most expert camera buyers. But one camera will not save Rollei. Mr. Peperzak's new product programme, which envisages a new 35mm camera for both Rollei and Voigtlander, as well as a sound movie camera and other camera equipment will emerge during the course of next year. "By the end of 1976," he says "we will know what the situation is and by the end of 1977, we

might reach a break-even point on a monthly basis, but there will be little profit."

At the same time, Mr. Peperzak intends to end Rollei's traditional reliance on its own production—it is one of the few camera companies in the world that manufactures all its own components. He intends to purchase component parts in Japan or the Far East, where they can be obtained more cheaply than from Rollei's own production. At the same time, he thinks that Rollei should be able to sell some of its own components, such as transformers and its renowned optical components, to other camera makers.

He hopes to be able to maintain employment in Germany at roughly its present level, of only about 1,500, but concedes that there will have to be further reductions in Singapore, especially of the expensive European contingent, if Rollei is to be made profitable again. The European staff in Singapore

has already been reduced from 117 to 80 and will fall further, for with Singapore wages now one-seventh of the German level and about one sixth of the Japanese, it makes little sense, to overload the plant's competitiveness with expensive European imports.

High German wages, of course, continue to make it difficult for Rollei to compete in price terms with the Japanese. Let alone the cheap Russian and East German cameras. A typical Rollei assembly line worker, most of whom are women, earns around £4,500 a year and the working pace is kept deliberately relaxed to ensure product quality.

But as Mr. Peperzak says: "When you are selling cameras costing over DM1,000 (£200) it doesn't matter a damn, whether you are DM100 more or less expensive than your rivals: it does matter, though, a great deal in the market for DM500 cameras—there 50p can make a difference." Clearly Rollei's future is intimately geared to the success of its technical people of producing technically advanced cameras to match the electronic Nikons and Pentaxes and the Canon cine cameras. If they can bring out a new line of models with enough advanced features, at planned and programmed costs, then the company has a fair chance of survival.

Ace

The one ace, which Rollei still holds—and which so many of the European technology companies which have taken a battering from the Japanese do possess—is its names. As Mr. Peperzak says "these are worth a fortune in advertising terms." But it is a much less proud and a much more realistic Rollei management which to-day looks out on the world camera market. "We have learned our lesson," says Peperzak, "I wouldn't be bashful about copying the Japanese." So the wheel has gone full circle since the days when Nikon and Pentax were taken as names by the European contingent, if Rollei is to be made profitable again. obvious similarity with famous German brand names.

Alan Dix advises business

BY JAMES ENSOR

MR. ALAN DIX, who has a creditable record in marketing in the motor business as managing director of Volkswagen in Britain and later as European marketing director of British Leyland, has established a consultancy operation. Mr. Dix will concentrate on four types of service, specifically. He will undertake executive recruitment for motor manufacturers and traders both in Britain and abroad. He will advise on the establishment of marketing or importing networks for motor manufacturers and is already helping a European commercial vehicle manufacturer establish a network in certain countries.

At a slightly later date, Mr. Dix intends to establish a large enough staff of marketing, accounting and general business experts to run a consulting service for motor traders. He will also act as a merger broker for traders in the motor business.

Mr. Dix has already established a reputation for running an efficient marketing and sales organisation. He and his team helped turn Volkswagen GB from a 20,000 cars a year, and profits of £100,000 to a £2m profit earner selling three times as many vehicles. This was achieved largely by improving and motivating the dealer network and the sales organisation.

Alan Dix and Associates hopes to perform the same function for motor traders. It will perform on the basis of an agreed fee, which will be a proportion of the increase in profit planned, and will be payable only if the target is achieved.

In addition, Mr. Dix, who was recently managing director of Lancer Boss, intends to offer the same services to dealers in mechanical handling equipment, farm machinery, commercial vehicles and other automotive equipment. He believes that the current recession, and the pressure on margins, is an ideal time to offer an expert service of business management to automotive dealers.



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Plastics and Rubber Weekly February 21st 1975

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London loses the European Patents HQ

BY NICHOLAS LESLIE

ANY LINGERING hopes which U.K. companies may have had for the establishment of a European Patents Office in this country have been dashed by a Government admission that it has lost its battle to have the office in the U.K. and has reluctantly agreed that it should be set up in Munich.

Mr. Stanley Clinton Davies, Parliamentary Under Secretary at the Department of Trade, made this clear to a congress in London of the Union of Professional Patent Representatives after having remarked that it "would have been better for the office, or at least an examining branch, to have been located in London."

Among the many arguments which were put forward for a European Patents Office in London was the much greater number of patent applications made in the U.K. compared with other European countries. Last year, patents applied for in Britain totalled 56,250 and the number sealed was 35,883.

Force

But even that argument may be losing some of its force as a result of developments which indicate that the number of patents applications in the UK may well fall over the next few years. These developments are internal, in the sense of new patents law, and external in the form of the tough anti-trust stance taken by the U.S. and the tightening up by the Common Market Commission of its interpretation of such things as EEC competition law.

Precisely how companies are going to react in the U.K. over the next few years is a little unclear, but it is nonetheless apparent that patents managers of companies are having to keep a sharp lookout at the direct and indirect developments taking place in the patents field and that many do not particularly like some of the things they see.

One of the Government's proposals likely to lead to a decrease in the number of applications for patents is increased charges, but even more effective in reducing the numbers will probably be the proposal in the recent White Paper for introduction of "inventive height" to the criteria by which patents are granted.

A present in time UK

"novelty" is the main criterion for granting a patent. In other countries, like the U.S. and Germany, however, criteria include novelty but also inventive height, which means a product is thoroughly examined to see whether it incorporates a sufficient degree of invention to warrant the granting of a patent.

The importance of patenting, according to a number of patents managers, does not appear to have lessened, despite the complexities and increasing costs of establishing and maintaining them and the problems which are unavoidable in protecting a patent from being used by other people. On the other hand, a minority view of one patent manager was that patents are out of date and that it should be "common law which protects a man who thinks of an idea from having it exploited by someone else."

Developments which are causing some worry include the Xerox and IBM anti-trust suits in the U.S. While these are considered somewhat exceptional, a nagging worry appears to have set in about how extensive the use of anti-trust legislation against the manner in which patented products are exploited might become.

Alarm

In Europe, meanwhile, the European Court decision last year inferring that two companies, granted licences for the same patent in different countries, should be allowed to compete in each other's markets is viewed with some alarm. One patents manager, pointing to this decision, together with the European Commission's unfavourable attitude to the protectionist marketing practices of the Hoffman-La Roche pharmaceuticals concern, suggested that the conditions under which patents are exploited would have to become much more general.

But while there are fears over the freedom to exploit patents, the Government's proposal in its White Paper this year to extend patent life from 16 to 20 years seems to be generally welcome. The main criticism coming from the chemical industry which has said it deplores the decision to retain compulsory licensing.

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FINANCIAL TIMES SURVEY

Tuesday, September 23 1975

هكنا من الفصل

BRAZIL

Brazil is encountering increasing difficulties in maintaining its strategy of close economic integration with the developed world. The country is facing problems with the external sector of its economy but there is no indication yet that those proposing a new economic strategy have moved into the ascendant.

It is one key figure whose... should be watched by... who want indications of... future course of Govern-... policy in Brazil. He is... verno Gomes, the Minister... Industry and Trade, a man... highly developed sense... lead the unwary to... that he was a light-

act the waxing or waning... Gomes's star will give a... to the state of play... in the two parsons of... nishing schools of thought... the Cabinet.

the one hand size those... el that the fullest inte-... of Brazil into the... ped western world with... ronger financial, economic... industrial ties between... a, Washington. Tokyo... he capitals of Western... e is in the country's best... is. Their philosophy was... out in the first years... the military coup d'etat... Roberto Campos, then... ng Minister, now envoy... ain.

ology

ame was passed on to... or Antonio Delfim Neto... e Minister in the late... and early 1970s who in... ased the by now highly... icated 'ideology' on to... successor. Sr. Mario... ue Simonsen, the present... ce Minister, the present... Campos-Delfim-Simonsen... ty has produced a situa-

tion, in which Brazil has ex-

perienced some years of very

fast growth spurred by the

dynamism of foreign capital

and the foreign companies

whose technology accompanied

it to Brazil. Now, however, the

foreigners' bill is being pre-

sented in the form of big claims

for the payment of loans made

in the past for domestic use

and for the purchase of imports.

In the meantime foreign in-

terests have bought up industry

in Brazil so that they dominate

many of the more profitable and

dynamic sectors of the econ-

omy. As we see elsewhere in

this survey, the bill is proving

difficult to pay.

Nor, as General Geisel, the

President, understands better

than anyone, has this pattern of

growth brought real develop-

ment to the majority of Brazil-

ians whose living standards in

comparison with those of a

privileged minority of the popu-

lation have fallen.

The social cost paid for the

"Brazilian miracle", by all

strata of Brazilian society with

the exception of the very small

class of direct beneficiaries has

been accompanied by an in-

creasing intolerance of

criticism of economic policies

evidenced by continuing censor-

ship and arbitrary behaviour by

the security forces.

There are those in Brazil,

and Sr. Gomes is one of their

leaders, who feel it is time for

a radical change in the

economic policies towards

greater reliance on Brazil's own

energies and a long overdue

development of one of Brazil's

principal assets, a domestic

market of 100m. people.

So far he is considered to

be in a minority of one in the

cabinet which is dominated by

Sr. Simonsen and others who

sympathise with his point of

view, namely, Sr. Shigeaki Ueki,

the Oil Minister, and Sr.

Joao Paulo dos Reis Velloso, the

Planning Minister and veteran

cabinet appointee.

to operate "risk contracts" in

association with it.

There can be little argument

of the fact that Sr. Gomes

presence in the Cabinet is main-

tained by General Geisel who

feels an affinity with his ideas.

Since he took over the presi-

dency a year and a half ago

Sr. General Geisel has made a num-

ber of speeches in which he

underlined his concern with

producing a more equitable dis-

tribution of income within

Brazilian society. He has also

expressed a desire—a cautious

desire—for some liberalisation

of the political conditions in

manipulated by the Dutch Brazil.

Philips concern.

Sr. Gomes's victory was backed

up by the lack of success that

Sr. Ueki had when he floated

the idea some months ago that

the monopoly of control over

oil production in Brazil exer-

cised by the state oil company

Petrobras should be modified by

allowing foreign oil companies

grown too big to take easily

imposts of any sort by local parts of Brazilian society, is

business or the better off indi-

viduals made it difficult for the

public sector to gather together

enough funds, for instance, to

finance the provision of such

basic public services such as

sewage: 70 per cent of families

beaten by the extremely rigid

in the city do not at the moment

social and economic system set

up in the years since 1964.

Enriched attitudes such as

these, allied to the failures of

Geisel to continue manoeuvring

such organisations as the

National Housing Bank or the

financed space allowed him by the

PIS obligatory saving scheme to

hard line extremists within the

cater to the needs of the poorer

armed forces and their col-

The cost of miracles

By HUGH O'SHAUGHNESSY, Latin America Correspondent

Frustrations

But both the President's and the Minister's desire for a change in direction have met with their frustrations. Foreign business, in some cases has

leagues in civilian life. All the same he is a cautious man and would not try too boldly to attempt to push through dis-

ension when he thought he did not have a chance of succeeding with it.

As far as Brazil's inter-

national, rather than its domestic, strategy is concerned the Government has been pursu-

ing a policy of diversifying its relations out of too great a dependence on the U.S. The

most noticeable manifestation of this policy was the decision to commit the future of

Brazilian nuclear power devel-

opment to long range co-operation with West Germany—untried though much West

German nuclear technology may be. Brushing aside official pre-

occupation with the possibility that Brazil could acquire the

wherewithal to produce atomic weapons and the complaints of

U.S. business which saw one of the biggest commercial deals of

the century go to their Western European rivals Brazil carried

on with its stated plans.

In a less important but

equally significant way the

Brazilian armed forces pressed

ahead with their procurement

plans which involved equipping

the navy with much British

material and giving the air

force French strike aircraft

and French radar equipment.

Though co-operation with the

Soviet Union on some sort of

BASIC STATISTICS

AREA	3.3m. sq. miles
POPULATION	110 (est.)
GNP	\$78bn.
GNP per capita	\$709
TRADE (1974):	
Imports	\$12.5bn.
Exports	\$8bn.
Imports from U.K.	£143m.
Exports to U.K.	£193m.
CURRENCY:	
£1 = 17.53 Cruzeiros	

never in the present, there is still the prospect of the Soviets supplying the turbines for the largest hydroelectric project being undertaken in the world, the Paragvayo-Brazilian scheme for the Itaipu dam on the river Parana.

Brazil's need to assure its supplies of oil and if possible get access to the surplus funds of the Middle Eastern oil producers has recently led to a strengthening of relations with the Arab states and Petrobras, through its subsidiary for foreign operations, is gaining experience in operations in a number of Arab countries including Egypt.

CONTINUED ON PAGE 111

World

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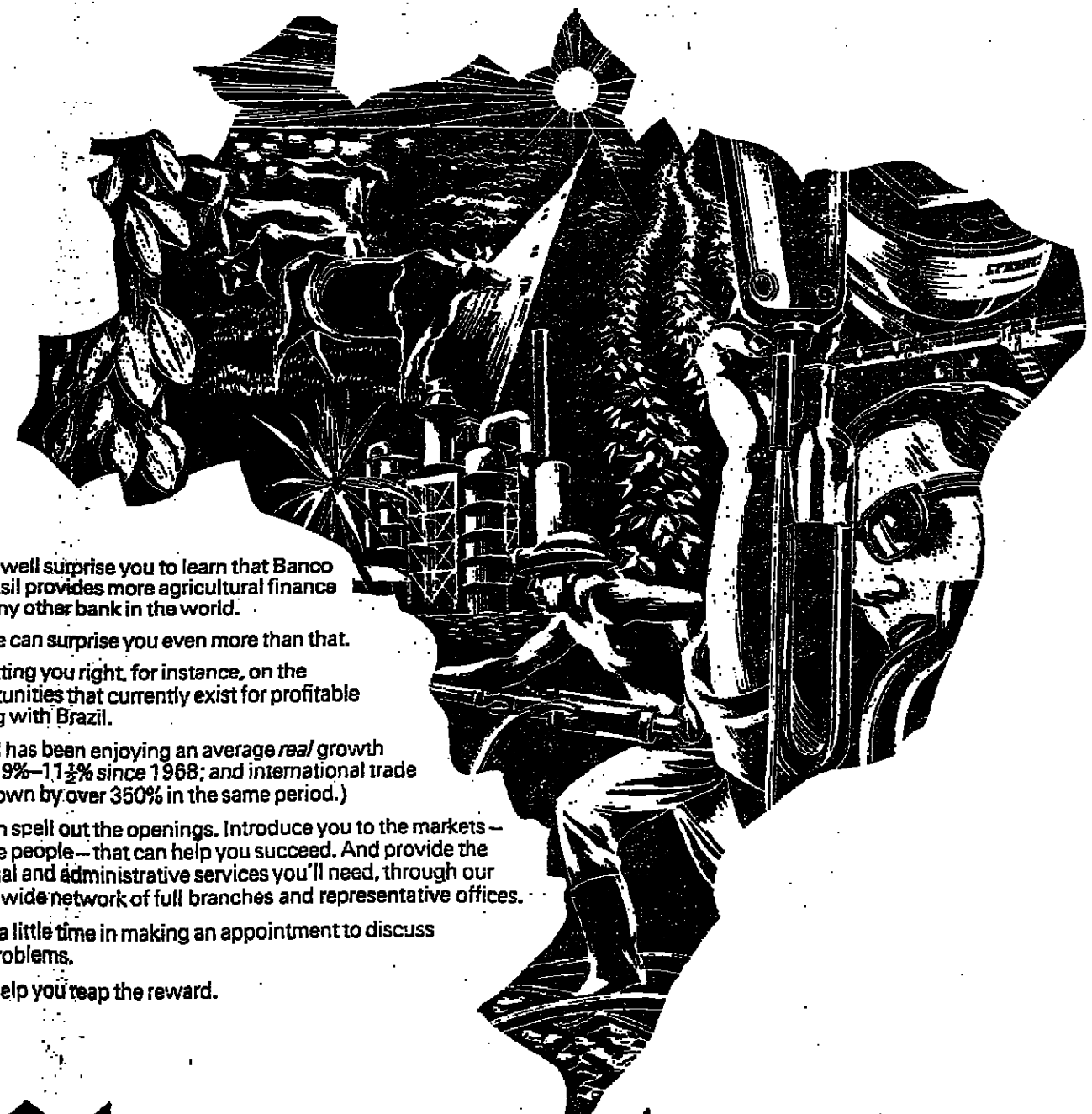
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Fiat cars, Fiat trucks, Fiat-Allis earthmoving equipment, are today being, or will shortly be, manufactured in Brazil itself.

Fiat Automóveis SA

Fiat Automóveis SA, a Company set up in partnership with the state of Minas Gerais, will be one of the leading automobile industries in the whole of Latin America.

The Belo Horizonte factory - 10,000 people and over 500 million dollars investment - is meant to produce 200,000 cars a year and over 155,000 engines for export.

What's more, the car to be produced there, the 147, has been specially designed for the Brazilian market.

FIAT
Automóveis SA

Fábrica Nacional de Motores SA

Last year 3,500 heavy trucks, that is over half the total Brazilian production in this sector, were manufactured in the Rio de Janeiro FNM factory, jointly with Alfa Romeo.

According to plans, a fourfold production increase is expected within the next few years.

FNM

Fábrica Nacional de Motores SA

Fiat-Allis Tratores e Máquinas Rodoviárias SA

This year, over 1,500 Fiat-Allis scrapers and graders are to be produced in the Belo Horizonte factory.

Fiat-Allis equipment, available in Brazil since 1950, represents over one third of the total market.

FIAT-ALLIS

Tratores e Máquinas Rodoviárias SA
(a joint venture with Allis Chalmers)

Within the infrastructures sector, Impregilo, a Fiat Group Company, is in the process of building one of the largest hydro-electric complexes in the country at São Simão. The work will take 5 to 6 years in all and will yield one million KWh.

FIAT

PRESIDENT'S STATEMENT

COMPANHIA SIDERURGICA NACIONAL

CSN (Brazilian National Steel Co.) is an integrated industrial complex comprising a large steel plant at Volta Redonda and 9 subsidiaries, including the following activities related to steel: production and beneficiation of coal, iron ore, ferro alloys, fluxes and palm oil; ocean transportation, with two coal carriers; plant housing development and real estate administration; insurance brokerage; and steel engineering studies and design.

In 1974, in spite of a high volume of investment in plant expansion, CSN registered a net income of Cr\$432 million (£24,643,468.00)* 58.8% above 1973 results. Earnings per share on average capital for the year was Cr\$0.31 (£0.05)*. Raw steel production dropped slightly, to 1,401,540 metric tons, due to interruptions by expansion work.

Work on stage II of CSN's expansion programme has been accelerated and, when completed by 1976, will raise annual installed capacity to 2,500,000 tons.

Work on stage III, to be started in the last months of 1975, will raise capacity to 4,600,000 tons per annum, at the end of the decade.

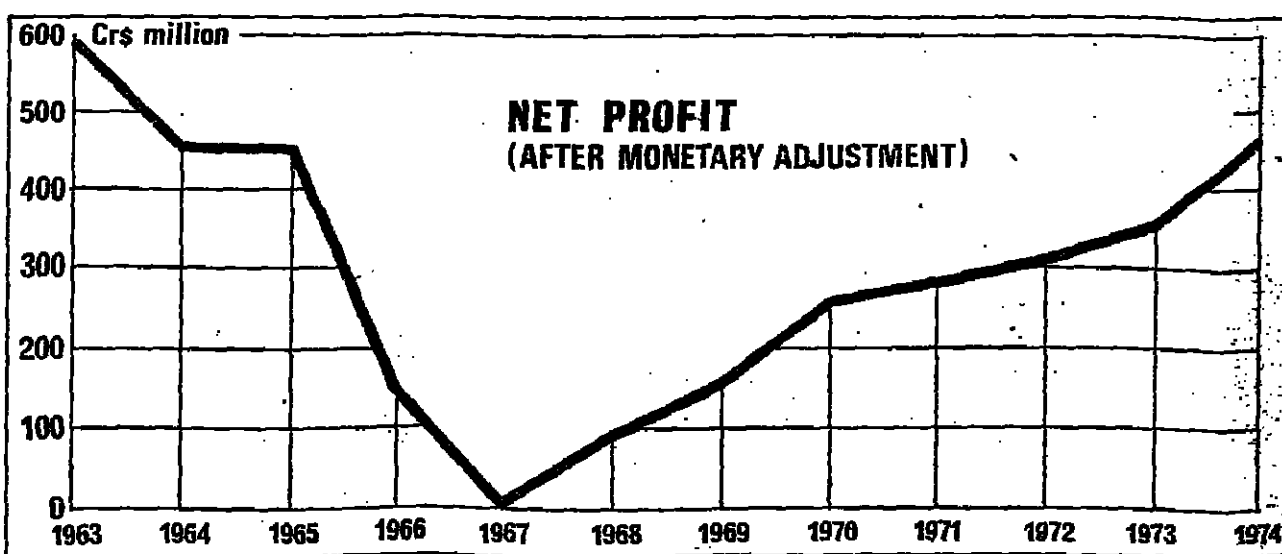
As a consequence of this growth, fixed assets in 1974 rose to over Cr\$2 billion (£114,090,100.00)*. Short and long term liabilities also rose, mainly as a result of heavier financial requirements for expansion. The year-end debt to equity ratio, nonetheless, was 0.94.

CSN's present capital is Cr\$2.8 billion (May, 1975) (£159,726,180.00)*.

Looking ahead to future expansion through a second steel plant, the CSN has acquired a site near Rio de Janeiro. The project envisages a first stage capacity of 3 million tons by 1983, rising to 10 million tons by the end of the century.

PLÍNIO CANTANHEDE, President

*£1.00=Cr\$17.53



BRAZIL II

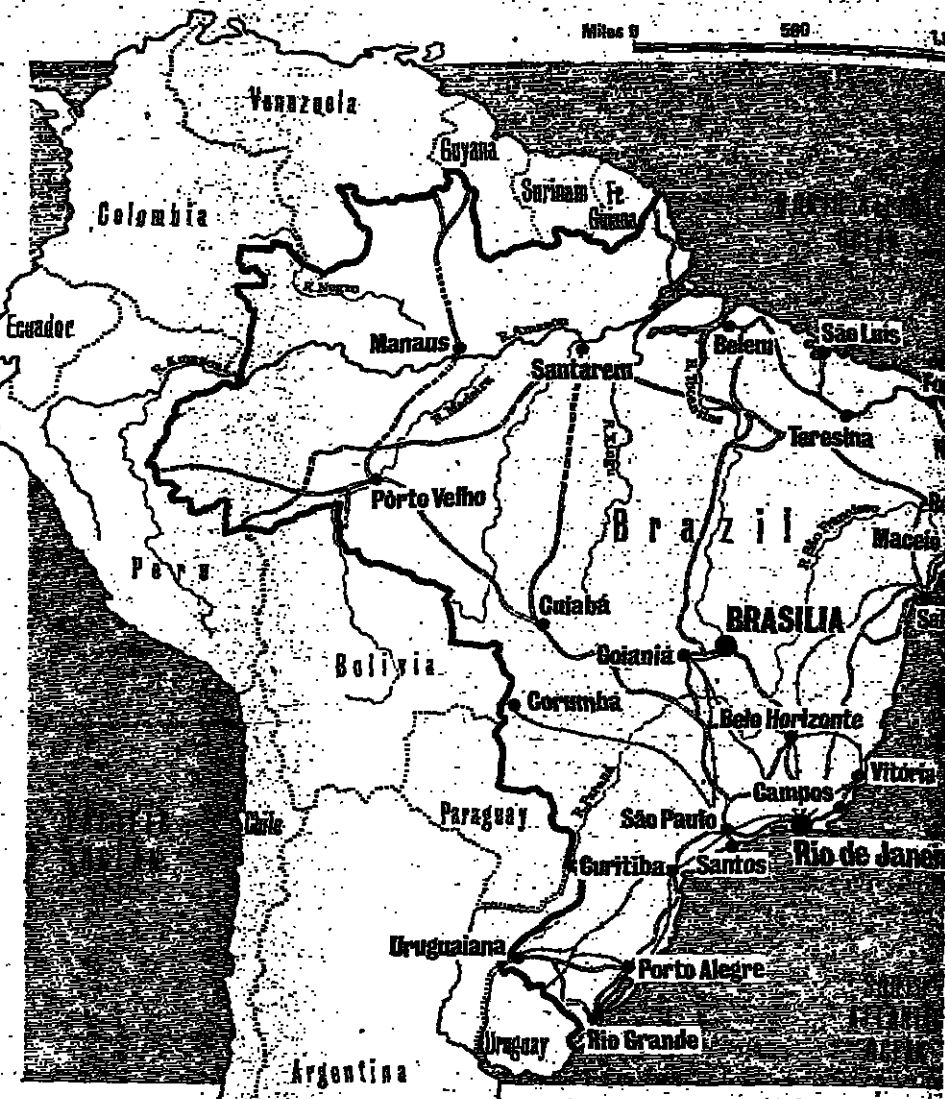
External trade a cause of concern

THE ECONOMIC formulae which gave Brazil one of the longest and fastest periods of growth that any large country has experienced are being called into question as the outlook for the external sector becomes increasingly clouded.

From the end of the 1960s under the direction of the super-Minister of Finance Professor Antonio Delim Neto Brazil grew furiously at rates above 10 per cent a year on the basis of opening up the Brazilian economy to the outside world. Imports of merchandise were liberalised and capital goods flowed in to equip Brazilian factories which reached peaks of efficiency and sophistication never before achieved. Imports of capital were likewise encouraged and under the twin stimulus of the great availability of surplus funds in the Eurodollar pool and the attractive conditions being offered by the Brazilian authorities Brazil was beset by lenders. The books, it was hoped, would be balanced by exporters finding abroad the market they often lacked at home where a large section of the population remained virtually outside the money economy.

The foreign money fuelled the import boom, pushed reserves up, gave the domestic sector a liquidity it would not otherwise have had and financed a relatively small amount of direct investment by foreign companies. The flow of money was also invaluable as a morale booster for the Brazilian entrepreneur and the authorities who naturally took the desire of foreigners to put money into their country as tantamount to a vote of confidence in their policies and their abilities.

Factories sprang up and high-ways were built across swathes of Brazil which had scarcely seen a white man before. Brazilian advice was sought by interested outsiders on the best way of managing their economic affairs as Prof. Delim achieved increasing success in reducing the rate of inflation down below the figure of 20 per cent a year.



doubled from \$1.25bn. in 1969 to over \$2.5bn. in 1973 and 1974.

To-day it is clear that Brazil is facing an extremely serious threat to its future from the dismal position of the external sector. There is bound to be another big trade deficit this year. The size of such a deficit may only be computed with accuracy after it is known by how much the OPEC oil price is going to rise. It is, however, unlikely that the trade gap will be as big as last year's. A slowing of growth has led to much reduced demand for some imports and the purchase of others has been choked off by Government action making them prohibitively expensive.

Despite an improved trade performance the current balance is bound to be pulled down deeply into the red by the growing weight of debt service payments which, it is estimated, could cost Brazil up to \$3bn. this year. This figure, more than twice what it was in 1970, has been inflated enormously by the fast rising foreign debt Brazil has contracted to keep the whole economic formulae going. From a level of \$4.4bn. in 1969 the foreign debt grew to way in the middle of a group of other stronger economies who were also suddenly in the capital market for large sums of cash thought that by the end of this year it could have reached no less than \$22bn.

The periods of strength and weakness in the country's external position have been faithfully mirrored in the fluctuations of the reserves. In 1968 they were a bare \$636m. by buoyant exports. Though stimulated to some extent by the extremely high prices that some of the sugar crop was sold at the healthy last year with exports coming to less than \$8bn. against imports of \$12.5bn. Meanwhile the debt servicing expected, according to Government forecasts that by the end of this year they will be down to over \$3.6bn.

If things continue on the course they are presently taking there can be no doubt that Brazil will soon be in very deep water indeed. By 1977 there will be no reserves left and the foreign debt will be simply unmanageably large.

The economic policy-makers are all too conscious of this and they are engaged in a number of strategies designed to get the best out of an unpromising situation. The balance of payments is now at the top of the agenda of work list of every ministry. "It is the most important fact we have to consider," one senior official at the Ministry of Industry and Trade in Brasilia remarked, to me recently.

Though they do not proclaim it publicly the Brazilians are confident that their foreign creditors will not press them too hard. Brazil's debts are now so huge that it is in no creditor's interest to embarrass Brazil too greatly and thus put in jeopardy his chances of recovering his money. The advantages of being a big borrower and thus having the fate of the lender to some extent bound up with your own are not lost on the Brazilian authorities and in private conversations with their biggest creditors they will be making much of it, particularly now that the developed world is realising that the recovery of its fortunes is to a great extent dependent on continuing demand for its products from developing countries such as Brazil.

The Brazilians have, like many others, done their best to strengthen their relations with the Arab oil producers. Last year there was much talk in Brasilia of \$1bn. of new invest-

ments and loans coming the Arab world to Brazil short time. In fact, for investors, unfamiliar with opportunities in Brazil, any of its pitfalls, have the time in coming in. But it remains hopeful.

Meanwhile opinion in Brasilia seems to be swinging to decision to make use of some of the facilities it calls on at the IMF and up to now, for reasons of prudence, it has should not touch.

But the last line of must come from greater earnings and reduced a tire on imported goods.

In the past month a single severe check, put on the ordinary ability to import. Central Regulation 334, for instance, demands that an importer to buy any item of the "superfluous" list deposit its full FOB value in the Banco do Brasil for 180 days. There is no room to extend the scope of what is considered "superfluous" and the for which the deposit is made.

It is also likely that curbs will be placed on Brazilians who continue to their holidays abroad in the world as though Brazil were not facing any external difficulties.

To mitigate the cost a imports, the government said it wants a proportionately locally produced alcohol admixed with petrol.

Lastly exporters are given every possible line to ship from Brazil's of anything that could make a little money abroad.

Energetic remedies are sought for a difficult situation.

Hugh O'Shaughnessy



Saab-Scania do Brasil plant producing buses, trucks and diesel engines.

BRAZIL III

Growth rate slows down

IT IS WELL-KNOWN that the projects require increased fuel imports (particularly oil), machinery and equipment, and iron and steel. As these items experienced from 1965 to 1974, with average annual growth rates of about 10 per cent., was largely wasted on impressive increases in the domestic market stagnated. During this period the demand for popular consumer goods because of the concentration of wealth and incomes among the upper middle classes. The rich enjoyed an unprecedented boom in consumer spending, while the ordinary worker suffered all the problems of a rigorous wage freeze that led to earnings falling way behind inflation. The unequal distribution of incomes also channelled more funds into the hands of the Government so that it could both undertake important projects in the area of economic infrastructure to support the export drive and create an attractive incentives programme to encourage manufacturers to export.

Amortisation

The world recession has created serious problems for this "model of development". Difficulties in increasing exports at the required rate have meant that in order to obtain sufficient foreign currency to cover both its trade gap and the amortisation payments and interest rates on its foreign debt, Brazil has had to increase its foreign debt from US\$12.9bn. in December, 1973, to US\$19.4bn. At the same time foreign exchange reserves have fallen from US\$6.4bn. in December, 1973, to US\$4.3bn. If Brazil continues to consume its foreign reserves at the present rate, they will be exhausted in about two years—which would mean very serious difficulties for the country in covering its balance of payments deficits.

These recent problems with the "export model" have led some sectors of the Government—and some businessmen—to turn to the domestic market. The advocates of the new policies have pointed out that the obsession with exports creates a series of self-defeating vicious circles. For example, it is pointed out that the export earners and under-employed

workers refutes the frequent claims that the urban proletariat can be included as a great beneficiary of the income growth in recent years. The impact of recent growth on the urban labour market has been extremely tenuous.

It is thus argued that a type of economic growth that does not improve the living standards of the mass of the population, in the north-east and elsewhere in Brazil, cannot be classified as "development"; and that the priority aim of any government should be to increase job opportunities for the poor and to correct the tremendous inequalities in income distribution.

It is maintained that the absurdities of the present model are evident. For example, the Brazilian footwear industry manufactured 120m. pairs of shoes last year. Of these, 37m. were exported, leaving 83m. for a population of 105m., that is, less than one pair per inhabitant. Moreover, 70 per cent. of production for the domestic market were not proper shoes, but sandals and others of the "flip-flop" variety. It is argued that in these circumstances the Government should not subsidise exports with public money, but rather concentrate on increasing domestic consumption.

Another example of present absurdities is the BNH (National Housing Bank). As it is under instructions to provide self-financing housing programmes, it finds that it cannot devise sufficiently cheap projects to be remotely within the economic possibilities of the

mass of poor workers. Thus, ironically, in a country with an extremely serious housing shortage, the BNH is in the embarrassing position of too plentiful funds which it really does not know what to do with.

These examples, which could be multiplied at will, have been quoted for several years by some economists and journalists. What is new to-day is the fact that important Government officials and some leading businessmen are now drawing attention to these problems too. The Minister of Trade and Commerce, Sr. Severo Gomes, for example, on several occasions recently has pointed to what he calls the "distortions" caused by the recent process of growth.

Dependency

The following are what he considers the main problems: the quality of the economic development, the country's economic dependency, the continued existence of regional inequalities, the deterioration in living standards in the large urban centres, the concentration of incomes, the relative weakness of the Brazilian private company and the backwardness of some basic sectors of the economy. He also said on another occasion: "The difficulties that the textile industry is facing to-day are closely linked with the country's income distribution." The Minister of Social Welfare, Luiz Gonzaga do Nascimento e Silva, commented recently: "We can no longer accept a society that can only protect a part of its population while the great mass of

Brazilians are virtually surviving from begging."

On the other hand, other Ministers have claimed that "the model hasn't changed" and the country must go on developing in the same way and facing the same problems. For example, Mario Henrique Simonsen, the Minister of the Economy, said in August: "The domestic market won't solve our trade gap. Brazil must go on increasing exports for there is no other way out for us with our foreign debt."

The debate is now in full flood. As yet, the "domestic marketeers" have not achieved any basic modifications in the model. At most, they are managing to carry out programmes that attempt to attenuate the distortions. For example, a new plan—Planam, the National Food and Nutrition Plan—has been drawn up, which, with £1.6bn. funds, hopes both to provide cheap, supplementary food to about 22m., a fifth of the population, between 1976 and 1979, and to increase the domestic supply of foodstuffs through projects to help the small farmers.

Indeed, at present the "foreign marketeers" seem well in control of the basic economic decisions to be taken. Somewhat paradoxically, increasing balance of payments difficulties may well strengthen their hand, as the Government is likely to give overwhelming priority to the difficult problems of securing the country's foreign solvency and of honouring its foreign commitments.

Sue Branford
São Paulo Correspondent

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The cost

CONTINUED FROM PAGE ONE

In Africa the need for new markets for Brazilian exports, particularly ones which would be interested in the sort of intermediate technology products which Brazil can supply has brought about the birth of an active Brazilian policy towards that continent.

Perhaps on the model of the French policy in the area it has sought to conciliate a relationship with the black African states with good working contacts with South Africa whose industrialists are interested in the mining opportunities presented by Brazil.

Curiously it is only in the field of relationships with the rest of Latin America that Brazil seems to be pursuing schizophrenic—or at least ambiguous—policy. The Brazilian Government does not appear to have decided what position the country should play in the Western Hemisphere. While diversifying away from the U.S. economically Brazil often gives the impression of accepting a role of Washington's political wiceroy in South America, taking a close and active interest in the affairs of Chile.

Unique

In the economic sphere it seems at one moment to be impatient of its geographical identification with the smaller Spanish-speaking states of Latin America. Brazil's size, one hears the Foreign Ministry say, makes it unique in the region and gives it the weight to carry out its own negotiations with the U.S. and the rest of the world without any need to harmonise strategies with the neighbours.

At the same time Brazil shows different degrees of enthusiasm for the formation of a common Latin American front to push through agreed strategies with the rest of the world. Brazil, it will be remembered, took a lead-

Proletariat

Mr. Goodman concluded: "In deed the size of the categories of under-subistence wage-earners and under-employed

ing part in the establishment of CECLA, the Special Latin American Co-ordinating Committee which in the late 1960s set out in very unequivocal language Latin America's desire for a more balanced relationship with Washington.

Last month Brazil attended the Conference of Foreign Ministers of the non-aligned countries in Lima in the capacity of an observer. Currently Brazil, after some misgiving, is playing a part in the negotiations for the establishment of SELA, the Latin American Economic System, the successor of CECLA.

The Foreign Ministry in Brazil, like every other foreign ministry, is attempting to have its diplomatic cake and eat it.

It would be wrong to conclude an appreciation of this sort without making an attempt to leapfrog over the very real difficulties that Brazil is facing at the moment and try and picture what sort of a country it will be in a generation's time.

That it will still be in one piece, an enormous land mass and an increasingly articulate political unit there can be no doubt. It must by then too have taken the necessary steps to develop the purchasing power of its population which will be giving it increasingly formidable industry a domestic base comparable to that enjoyed by U.S. industry at the close of the last century.

It will be surprising if the great names of Brazilian industry, making full use of that domestic base, do not make themselves into household words round the globe. With the forthcoming visit of the Brazilian Foreign Minister, Sr. Azeredo da Silveira, to this country in November, Britain will have a chance of planning ways in which the two countries can co-operate in realising some of Brazil's dreams.

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BRAZIL IV

Shares come back to life

AFTER BEING left to meander gently along for more than a year, with no great enthusiasm on anybody's part, Brazil's stock exchanges have suddenly come back to life. The Government, which had been more or less ignoring them, has been free with its attentions ever since. The main stimulus was the anticipated arrival of foreign capital, formally announced in May when President Geisel finally signed the decree setting the terms and limits under which foreign investors would be allowed to participate. This, added to the signs of gradual recovery from the worst of the economic recession, made for an atmosphere of euphoria, some of which appeared to wash off on prospective foreign investors.

In the three months between the middle of April and mid-July the leading index in Rio de Janeiro—the largest in trading volume, followed by São Paulo with Belo Horizonte a distant third—nearly doubled to 4,338 points from 2,215, the highest level since the boom period of 1971. Volume shot up from between £3m. and £3m. a day to between £5m. and £8m. The interest of North American groups, such as Chase Manhattan, Citibank, Bank of Boston and Brascan, all of which have extensive operations in Brazil, had been anticipated, but there was also considerable response from Europe and especially Britain. Vickers de Costa, White Weld and James Capel have all been active in putting together the investment funds required to channel money on to the markets.

The reaction of local investors to the imminent injection of capital from abroad may have been exaggerated but, as one broker said, "they hadn't had a chance like it for four years." Since then, for various reasons, the euphoria has calmed down and the Rio index has slid back below the 4,000 level.

It soon became clear that neither the Government nor the foreign banks intended a gold rush. Given especially the long-term conditions imposed, nobody was going to throw all they had on the still unproved Brazilian market. A Swiss banker put his position thus: "We once had a successful affair in Argentina but with

Brazil we don't have much foreign control. The restrictions are partly due to extremely sensitive arguments about the large proportion of foreign capital already installed in Brazil, either through local subsidiaries or through direct stakes in Brazilian companies. It is also a question, simply, of not upsetting the market too much.

This concern is usually referred to as "the spectre of 71." In the middle of 1971, when the prospects of economic growth were that much greater, share prices soared to unheard-of levels and the stock markets took the place of casinos. By the end of the year the boom had collapsed, the Rio index fell 1,000 points in two months, small investors went back to their savings accounts and gamblers went back to the nearest real casino in Puerto

Instalments

The conditions imposed are understandably strict. Not wanting to attract hot money that can be whipped away at any moment, the Government stipulates a minimum investment of three years. Even after this, funds can only be withdrawn in a minimum of five half-yearly instalments, which means that investment is in fact committed for five years.

The funds are to be channelled through portfolio companies based in Brazil, on which are imposed minimum and maximum capital limits. These companies may not invest more than 10 per cent of their funds in one company and may not hold more than 10 per cent of any company's voting stock.

The banking sector is out of bounds, and the Government is expected to take further precautions if companies in key later sectors begin to fall under

responsibility for the way this year's boom has slowed down, despite the promise of a further input of capital from pension funds and insurance companies. The insurance companies, under a recent Central Bank resolution, will apply between 30 and 45 per cent of their technical reserves in shares and convertible debentures, which the Government says amounts to a minimum of £28m.

But at the same time as trying to encourage the markets, the Government is bringing in a series of measures to control their activity. It has drawn up legislation for a Securities Commission based on the model of the SEC in New York, and for new ground rules for joint stock companies, including various protection instruments for the small investor.

Net assets

More controversially, it has disbanded brokerage houses from holding their own share portfolios, and stipulates that mutual funds and the brokers who organise them should have minimum net assets of £25,000. The ban on shareholdings, which the brokers have a year to sell off, was roundly attacked by the chairman of the Rio Exchange, Sr. Fernando Carvalho, who

said it was "solely and exclusively directed against professional class." But portfolios, he argued, account for between 5 and 10 per cent of business, compared with a much higher rate on Wall Street.

The measures are certainly aimed at creating better conditions for private investors, thus a wider base for Brazil's owned private industry. The Government is anxious to strengthen rather than be with a choice between control and foreign control areas which require investments.

With more confidence in the structure of the market, second and third companies will stand a chance of benefiting from inflow of funds, whereas bulk of activity is now centred in a half-impregnable stock, such as State-controlled banking, mineral interests.

The arrival of foreign funds, however, closely described at first, also stand make an important contribution in passing on the sophistication of more highly developed markets.

David W. Brazil Correspondent

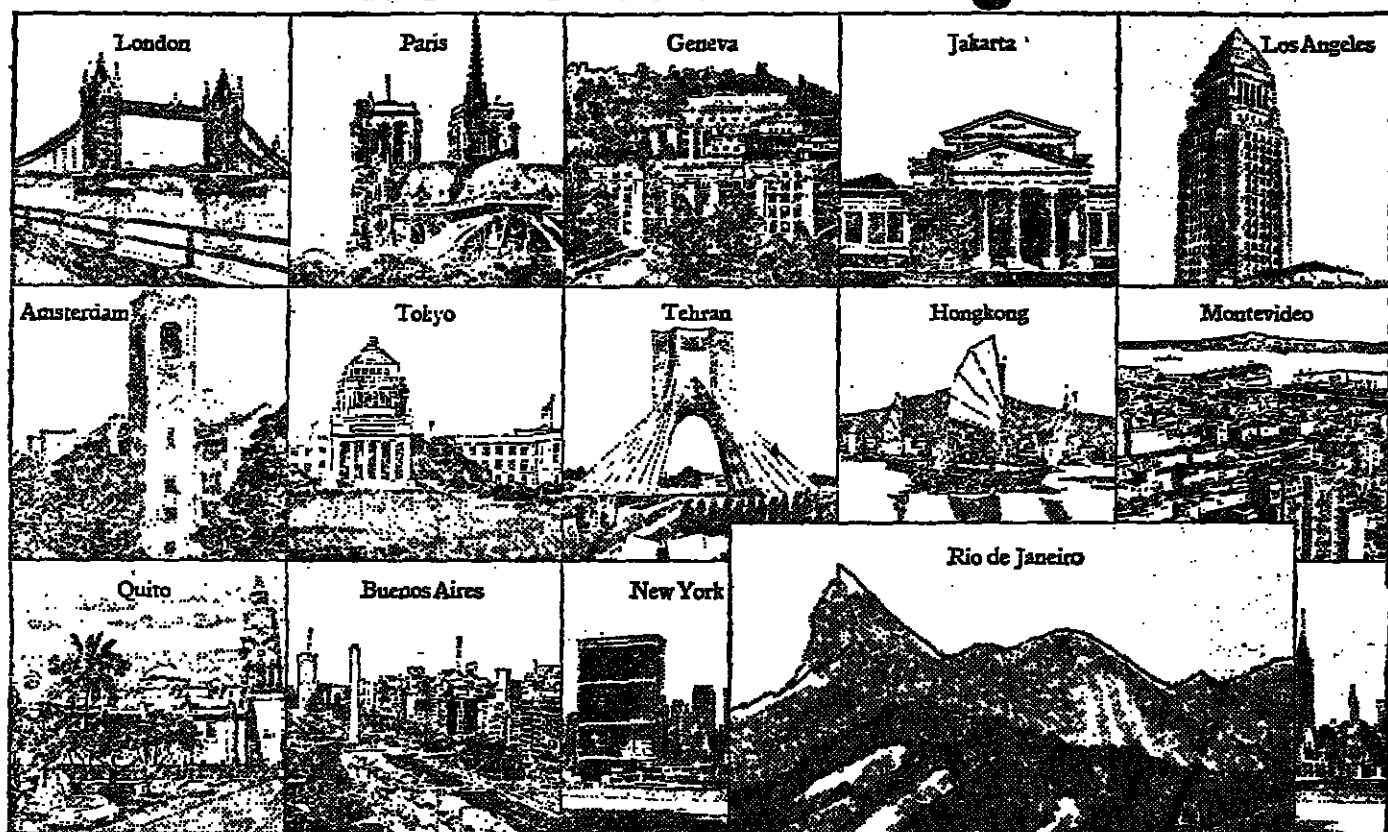
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Energy shortfall

BRAZIL'S natural resources are astonishingly abundant, and this is particularly so where energy is concerned. The hydroelectric potential of the country is estimated at 140,000 MW, known reserves of oil amount to over 50n. barrels, and deposits of nuclear fuels, certainly thorium and possibly uranium, are extensive. But energy potential has no significance if it is not developed, and Brazil, having taken the road of rapid growth based on foreign sales and foreign finance, needs to put this potential into action as soon as possible.

This process, however, is not proving particularly smooth, a point brought home this month by Colonel Elias Paladino of PMEB, the Guidelines for Brazilian Energy Project, who claimed that the proportion of imported energy in Brazil's total consumption of energy rose from 17 per cent in 1960 to 27 per cent in 1970, and seems likely to reach 51 per cent in 1985. Only in the year 2000, added the colonel, will Brazil be approaching self-sufficiency in energy supply.

Of course, it is imported oil that is currently doing so much damage to Brazil's balance of payments. Though in the long term it is a fair bet that Brazil will eventually reach self-sufficiency in oil supply, at present it is paying the price of having neglected until very recently

developing domestic production and production. Petrobras, the State-owned oil company, is now having to hire foreign equipment and teams to speed just over 16,000 MW at the end up the sinking of wells under of

the sea bed, and its planned investments of \$Cr.26bn. (\$1.5bn.) in the field of prospecting for the 1975/79 period will probably have to be substantially increased.

It has been suggested that progress could be accelerated by breaking the State oil monopoly and allowing foreign firms to prospect under "risk contracts" whereby they would keep part of whatever oil they might find. The Government has denied that any negotiations have taken place in this direction so far, but the pressure is still there.

In the short-term, the situation is worsening. The contribution of Brazilian oil to domestic consumption fell from 24 per cent in 1972 to 20 per cent in 1974 and it has been estimated that it will fall again this year to only 18 per cent. Figures for the first quarter of this year bear this out: while domestic production rose by 2.5 per cent to 182,000 barrels/day, domestic consumption rose by 7 per cent. Consequently over 700,000 barrels/day are having to be imported, and the total cost of this year's imports is likely to be U.S.\$3bn. or more, an increase of some 11 per cent over the value of last year's imports.

Big new hydroelectric plants are being planned or built in diverse areas of the country now having to hire foreign equipment and teams to speed just over 16,000 MW at the end up the sinking of wells under of

where 75 per cent of Brazilian industry is located, new plants at São Simão, Ingarapé and Itumbiara will almost fully use up the remaining potential of the region. The massive US\$4bn. Itaipu scheme on the Paraná river in the south, which is being built jointly by Paraguay and Brazil, is partly intended to provide energy for the south-east. When it comes into operation in 1982, Brazil's installed capacity will be of the order of 33,000 MW; and Itaipu's own overall capacity, when it becomes fully operational, will be 12,500 MW.

It is in the north that really new ground is being broken. The potential of the Amazon is estimated at some 60,000 MW. Of this a potential of some 18,000 MW lies in the Tocantins river and the Araguaia river which flows into it. The Government's policy is to plan industrial projects in the region and then build hydroelectric plants to supply them with energy. The pioneer scheme of this type is Tucuruí, which is to be built near the mouth of the Tocantins river, some 200 kms. south of Belém, at a cost currently estimated at US\$1.4bn. When it is finished in 1981, it will consist of nine plants with a total generating capacity of 6,000 MW. The two industrial projects which it will serve are both joint ventures involving CVRD, the State-owned mining company: one is the Carajás iron-ore mining project in conjunction with U.S. Steel, the other is the Albrás aluminium project in conjunction with the

Japanese consortium Metal Smelters Association (LMSA).

The Brazilian Government originally allocated US\$2.5bn. towards the construction of Tucuruí, but a decided change of mind on the part of LMSA has further decided to put the energy that will be produced by the Carajás changes of mind are apparent to be incorporated into official policy in the Amazon.

A Rio mining specialist, "The Government needs to attract mining and metallurgical companies (to the Amazon) by the means of a power... The Government now decided that the big consumers who go to Amazon won't need to be part of the cost of construction of the hydroelectric plant get power at production cost was originally required."

is the price of attracting a scale industry to the Amazon.

But the most significant peening in the energy field (its politics) was the agreement signed between Brazil and West Germany at the end of June. The agreement based on an exchange of Brazilian uranium for West German nuclear technology. If

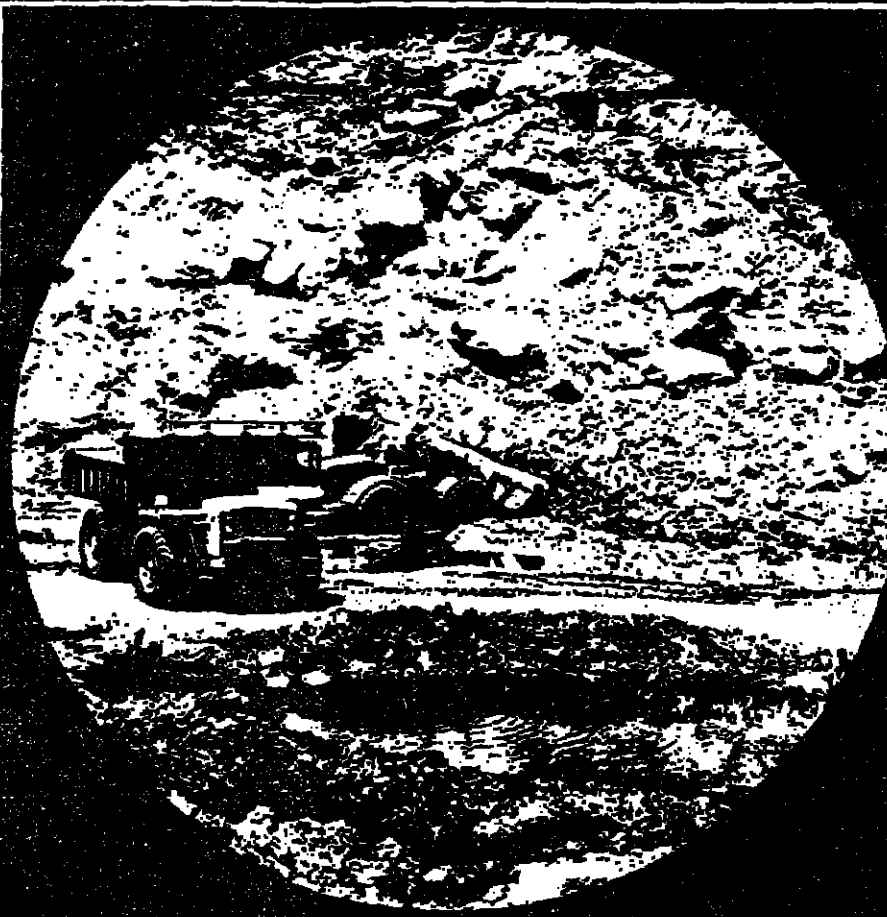
bras, the Brazilian State nuclear company, will be setting up joint ventures with German firms with Uranium shaft, for the prospecting

project in conjunction with the

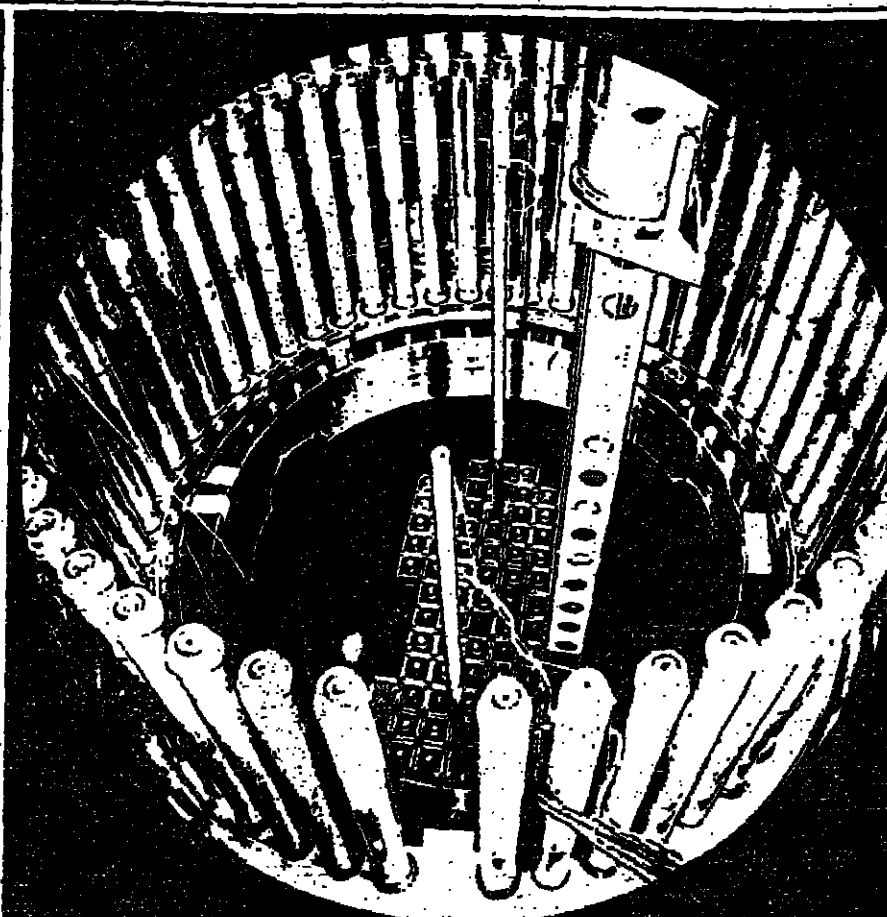
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BRAZIL V

Foreign loans debate

IF the liveliest debates in at the moment is over the multinational companies, how much control—and can—the Government exercise over their activities is the large Government company the only real alternative to the multinational? But then isn't the the "creeping nationalisation" of the economy as the danger of "creeping nationalisation" or, more y, "creeping Japanese". All these questions are aired in the Brazilian with an unusual degree of freedom—and the very lack of spread censorship on "spies" indicates just how the Government feels it has a thorough dis-

itions

y sectors of the Govern- are becoming involved in debate. A Parliamentary sion of Inquiry is being in the role of the multi- als. An ARENA senator, lo Guerra, has presented et that would make it for Ministers and other Government officials, in military officers, to hold ant positions in multi- companies for at least years after they leave office. (There are us cases of two very ant members of previous ents who immediately id key positions in multi- companies after leav- ing.) Ministers in the Government are making ant—and often conflict- statements about the ment's position. how important are investments? Is the in economy really domi- ght, the answer would be "no": according to

CONTINUED FROM PREVIOUS PAGE

2 of uranium with Steag- erie and Interatom, for arching of uranium with (Kraftwerke Union gesellschaft) and other mies, for producing fuel and with Kewa, for essing radiated fuel. The actors are to be built by WU, with growing partici- by Brazilian industry, so e latter should be able to responsibility for the on- of the last four- s (Brazilian industry will about 30 per cent. of the or the first reactor.) The total cost of the nuclear me up to 1980 will be of er of U.S.\$15bn., and by e the eight reactors, plus t Angra dos Reis reactor is already being built, e beginning of this year, Brazil's 72 capital goods ties in a position to con- to the nuclear pro- e were unofficially not- start making preparations duction. Furthermore, a um is being formed by the Brazilian Associa- or the Development of Industries, involving, it s, the nine leading firms y engineering and elec- quipment manufacture h their names have not

Uranium

First, there is the question of uranium. No one seems to know exactly how big the Brazilian reserves are: while Paulo Nogueira Batista, the director of Nuclebras, optimistically puts them at 11,000 tons, enough to provide enriched uranium for 12 years, other sources claim that known reserves are as low as 3,000 tons. However, before the treaty was signed, a West Ger-

man team also went prospecting One of the reasons for the present concern is the fact that foreign investments are not equally distributed over the economy but are highly concentrated in particularly dynamic sectors that are registering high growth (and profit) rates. Foreign companies produce 63 per cent. of Brazil's pharmaceutical products, 65 per cent. of its machinery and equipment, 70 per cent. of its electrical and electronic equipment, and so on. And when the multinationals are determined to expand, nothing seems capable of stemming their growth. The electrical and electronic equipment sector is a good example in point. Ten years ago, Brazilian manufacturers supplied 65-70 per cent. of the market for radios and TVs;

SHARE OF FOREIGN RESOURCES IN GROSS FORMATION OF FIXED CAPITAL IN BRAZIL

	Annual averages		
	1950s	1960s	1970-73
	%	%	%
Share of foreign investments and re-investments	2.7	2.6	2.7
Share of foreign loans and financings	8.3	13.5	24.1

Source: Banco Central do Brasil.

today their share has dropped to 20 per cent. This rapid expansion of the power of the multinationals in the sector has provoked accusations that the foreign companies (Westinghouse, Brown Boveri, General Electric, AEG and others) are exercising a much heavier toll on the economy, for they absorb ever larger proportions of Brazil's hard-won foreign currency. Brazil's foreign debt now stands at about US\$19.4bn. and last year Brazil sent back abroad 41 per cent. of its export earnings in amortisation and interest payments. In this case, why have the relatively direct foreign investments created so much alarm?

facturers might totally dominate the production of refrigerators that led Sr. Severo Gomes, Minister of Trade and Industry, to forbid the sale of Consul S.A., one of Brazil's main refrigerator manufacturers, to the Dutch Philips. Another area where foreign competition is beginning to create considerable preoccupation is processed dairy products, a sector that scarcely existed a few years ago and is now expanding rapidly. Sales of relatively sophisticated milk products, such as yogurts, ready-to-eat desserts and milk drinks, are growing rapidly. The sector is increasingly dominated by foreign companies, particularly the U.S.A. Anderson Clayton and the French Danone. Brazilian manufacturers are feeling par-

winning Government contracts because, for most purposes, a "Brazilian" company is defined as one with 51 per cent. or more Brazilian capital. As they frequently both control technology and have sufficient votes on the Board of Directors to veto any decision they are firmly opposed to, the foreign companies also exercise very great power in these joint ventures, despite their formal status as minority shareholders.

One recent difficulty that has tended to harden Government attitudes towards foreign companies has been the reluctance that foreign partners have shown to go ahead with previously arranged joint projects. One example is the huge Albrás project in the Amazon region that CVRD is undertaking with Light Metal Smelters Association, a consortium of Japanese mining companies. The original project, involving a U.S. \$3.5bn. investment, was for an annual output of 640,000 tons of aluminium. Although the issue has not been finally resolved, it now seems that the Japanese companies may pull out, because of problems of overproduction of aluminium on the world market. The CVRD has expressed firm determination to go ahead with the project and to begin production in 1979, even if at half the originally planned level.

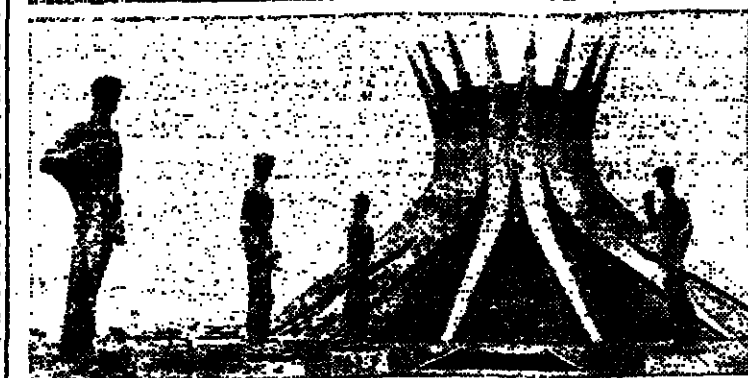
Sr. Shigeaki Ueki, the Minister of Mines and Energy, in a speech in the middle of August, sternly rebuked multinational companies that cut back on previously arranged projects, because of problems elsewhere in the world. This slowing-down of plans was completely against Brazil's interest, Sr. Ueki commented, adding that the multinationals must learn "to think a bit like Brazilians."

Tensions

The recent tiffs with the multinationals do not indicate that new, "anti-imperialist" attitudes have been adopted by the Brazilian Government. What is occurring is the exacerbation of the tensions that always potentially existed, due to the very fact that economic groups with different fundamental loyalties and long-term objectives are working together. During periods of economic boom, these latent conflicts are disregarded; but during periods of economic difficulties, the disagreements become much more evident. The Brazilian Government is certainly not seriously reconsidering its "model of development" that relies so heavily on foreign resources and foreign collaboration. On the contrary, members of the Government even see the multinationals as models to be copied. For example, Sr. Ueki made the following observations in the speech that has already been quoted: "We Brazilians need to learn to think a bit like the multinationals and create Brazilian multinationals. We must copy the efficiency with which these companies search all over the world for the lowest interest rates and cheapest inputs, transfer their profits to where taxes are lowest and set up plants where labour is cheapest, while selling their final products where prices are highest. They deserve our congratulations, for they have achieved a really enviable degree of efficiency."

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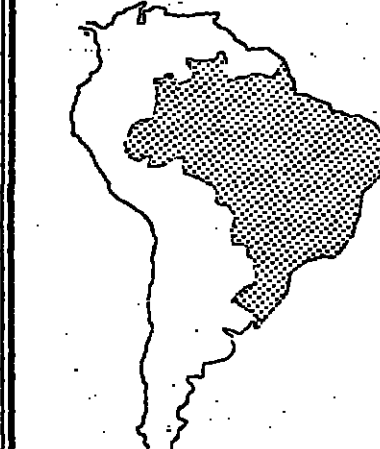
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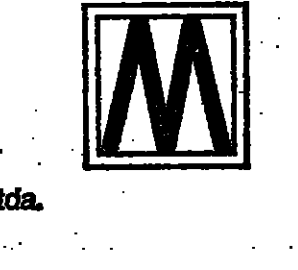
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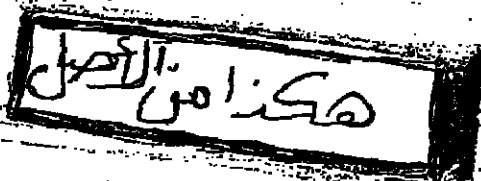
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BRAZIL VI

Broader base for agriculture

PALOTINA is a thriving little rural community of 48,000 people and 5,000 farms not far from the border with Paraguay. Like other townships for miles around in the north and west of Parana, it has grown up in the last quarter-century from an expanse of unused, rolling forest.

The settlers were children of German and Italian immigrants, who joined a process of colonisation that is now moving out into other, remoter areas where the land is cheaper. Palotina, itself just 15 years old, is a pioneer town. "The Pioneer" is the name of the local paper, a pillar of civic pride. There is a coat of arms, a flag and a municipal hymn exalting the land and the people. "All working together for the progress of Brazil."

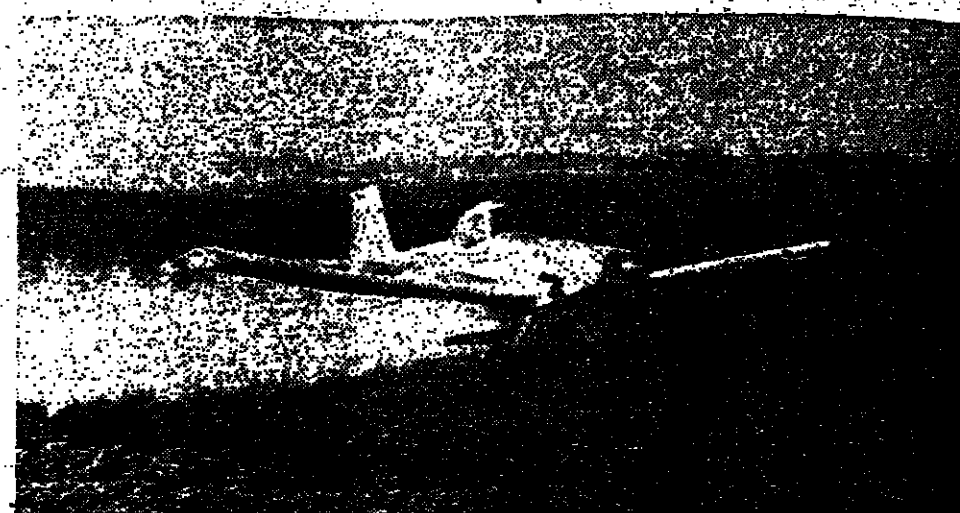
Palotina has been chosen as Brazil's Soya Capital, in honour of a crop that was virtually unknown when the town was founded and is now in the forefront of Brazil's agricultural expansion. Alongside cattle and wheat, the beige beans are now the area's main livelihood. For a national harvest festival in May the town turned out all its 1,200 tractors, a blushing Soya-bean Queen, and a booklet telling visitors how to prepare such nutritious treats as soya steak, soya croquettes and even soya marzipan.

One-sided

According to Sr. Alysson Paulinelli, the Agriculture Minister, soya is likely to become Brazil's biggest source of foreign earnings this year. The 9m. ton harvest is a record, as it is every year, and looks set to bury Brazil's one-sided image as the land of coffee, already overshadowed as number one export by sugar after last year's price rise.

With the emphasis on cattle-raising, wheat and soya, Brazil is reducing its dependence on traditional farming, under a Government programme which aims to make repairs for the relative lack of attention given to the land. Sr. Paulinelli, a professional agronomist still in his thirties, is the youngest member of the Government and has a strong reputation to live up to after three years in charge of the agricultural development of Minas Gerais. This year, at least, it looks as if the targets are going to be difficult.

The Government plans to expand agricultural production by 7 per cent a year up to 1979, more or less keeping pace with the country's overall growth rate. Prospects for achieving



Coffee plants being sprayed in São Paulo State by an Ipanema aircraft company, manufactured by the Brazilian Embraer aircraft company.

this year's target were slapped down by the winter frosts. Apart from half next year's coffee, they hit wheat production in the more northerly areas (30 per cent in Parana and 90 per cent in Mato Grosso) and affected a number of other crops and pastureland.

The work done by frosts was then compounded by fire, a familiar hazard when the pasture grass is dried out by the cold weather, while farmers on the northeast coast were looking for their crops under feet of flood water. The setbacks to cereal and cattle production in particular mean that the volume of production will fall below the seven per cent increase planned, although Sr. Paulinelli expects the higher prices for many farm products to make up a \$7bn. export figure, not far short of the country's overall figure last year and 20 per cent of this year's expected total.

One of the main disappointments was that Brazil had been hoping never to have to go abroad again for its wheat. Production this year is expected to be about the same as last year's 3m. tons, leaving a gap of at least 1.2m. tons.

But the effect on coffee has probably accelerated the plan to shift to a more diversified pattern of farming. Already large parts of the coffee regions have gone over to soya and wheat, grown alternately, and cattle-raising.

The Government operates a massive support programme to encourage beef production, which has traditionally been concentrated in the extreme south of the country. It has built up stocks of well over 100,000 tons, subsidising the storage in refrigeration plants.

The Brazilian herd is now estimated at 90m. head of cattle, and this is likely to increase

enough to make up the loss. Increasing the total is only one of the ways in which the Government is trying to diversify the country's exports. The Government is subsidising the production of fertiliser, while cultivation techniques gradually being modernised in bringing agriculture

duces on to the home market, the Government is trying to reduce the role of the middleman, encourage the marketing of the producers and co-operatives themselves to encourage large stocks, resources for doing clearly not limitless, and not want to do the job itself. Meanwhile, stores are an estimated 20 per cent for this year's crop short for this year's crop caught out in a new market after last year's harvest, which was sold for the U.S. discovered was damaged and put up. This year the Government has set about buying

of soya to stop the market happening again. "Brazil knows how but not how to sell," now become a standard. This year, however, the item is alleviated by elsewhere, while the amounts of agricultural are going through trade agreements and growing domestic market.

The effort to use Brazil's expanses of untouched land has even brought the rubber boom back to life. Rubber began to flourish and collapsed in Brazil around the turn of the century, and the country that once produced 98 per cent of the world's supplies now has to import 35,000 tons a year. But new plantations in the remote northwestern state of Acre will, it is hoped, increase production

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Frost hits coffee crop

NO ONE in Brazil yet seems quite clear what will be the overall effects on the country's economy of the severe frosts that hit the south at the beginning of July and did serious damage to next year's coffee harvest, as well as affecting other crops.

That Brazil will profit in the short-term seems quite clear. Nearly all this year's harvest (1975/76) had been reaped before the frosts and even the beans that had not been harvested did not suffer greatly. Thus it is likely that production will more or less reach the level of the last revised estimate put out by the IBC (Brazilian Coffee Institute), that is, 28m. 60-kilo bags. Government officials have estimated that world price increases due to the frosts could well mean that Brazil will earn an extra \$U.S.50m. this year from its coffee exports. If so, the sum will be very welcome, in view of the country's present balance of payments difficulties.

What of the next harvest? It is here that the doubts and the contradictory opinions begin. The IBC has estimated that all the state of Parana's crop, originally put at half of Brazil's total output, or 14m. bags, has been destroyed, together with about 60 per cent of the harvest in the second producer state, São Paulo. However, one acknowledged authority on coffee cultivation, Sr. Alcides Carvalho, from the Agricultural Institute in Campinas, has said that it is still too early to know for certain the full damage to the crop; part of next year's harvest may well be recovered; he says, if the farmers wait until the middle of this month, the bushes will have budded, before carrying out pruning. It would be no surprise to observers in Brazil if has broken this dependency in the IBC, traditionally pessimistic in its estimates, was exports, worth \$U.S.712m., crops after this year's disappointed once more to have over-

estimated a fall in production. However, whichever forecasts they were responsible for 35 per cent, at a value of \$U.S. 981m. By 1974, however, their share had dropped to just 12.3 per cent. As their value has remained virtually stationary since the last four years (\$U.S. 980m. in 1974), it can be seen that, in large part, the drop in their relative importance was due to the spectacular growth in Brazil's total exports. None of the IBC's declared reserves that it will not be selling any of its reserves this year, but keeping them to help cover shortages in future years.

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Reserves

Indeed, as Brazil now uses up about 25m. bags a year (17-18m. for exports and 7-8m. for domestic consumption), IBC could well maintain its stocks without seriously upsetting the world market. These reserves will certainly help Brazil having important, direct consequences for the Brazilian population.

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Tenure

Moreover, the north of Brazil where land ten is divided into small farms, about 60 to 100 acres. As been calculated that 50 per cent of the land is to be used for coffee, requires farms of at least 300 acres in size. The state that is planning to plant 200m. b over the next two years, increasing its production of bags, which is more than 4.9m. bag crop this year. And even states further north, that have not been associated with coffee projects, the farmers need not about frosts.

First of all—and ironically enough—a *cafézinho* (cup of strong, sweet black coffee) may well become a luxury product in this land of coffee. For with all the concomitant tensions that this involves the price of a kilo of ground coffee on the domestic market has almost doubled since the frosts, and now stands at \$Cr.22 place (about £1.22), which would not even seem very cheap to British housewife. Here, where 70 per cent of the population earns \$28 a month or less, it is, in fact, becoming prohibitively expensive. Although the Government has not admitted that the market is so tight, it seems clear that the Government is authorised precisely to reduce domestic consumption and thus more production for export.

Secondly, farmers in Parana, Brazil's main coffee producing state, are switching to other crops after this year's disappointed once more to have over-

See Brant

Difficulties over steel production

WITH extensive reserves of iron ore, and high production at that, is in a favourable position to become self-sufficient in steel in the not-too-distant future, says a well-known Brazilian steel industry expert. However, the sizeable manufacturing sector, headed by a car industry, accounted for 21.5 per cent of steel consumed in Brazil in the first half of 1974, the year at present still notching enough for its own consumption. Last year, it required 4.5m. tons of steel. Large-scale production of steel capacity is at present under way, the main task in which is Brazil's inability to go to the production of steel ingots in the first half of 1975, which grew by only 5.6 per cent. The official target for this year was 9.5m. tons, which would involve an increase of 6 per cent over last year's production figures for the first six months of this year, which were only 4m. tons produced, an increase of 1.4 per cent over the same period last year. Consequently, the target figure has been set down to 8.5m. tons, but even that production in July was only 7.5m. tons, and does not augur well for achievement of this target.

Content

One of the major problems for steel producers is for the blast furnaces. Brazilian coal has a very high content, which has a very severe effect on the production of the steel mills. Content it used to have to be 1 in a maximum proportion of 20 per cent, with imported coal, most of which came from the U.S. But when the price of U.S. coal rocketed last year, eventually reaching a level of \$US42 per ton (and rising up to \$US130 per ton in the Brazilian black market), restrictions soon went into effect. CSN, the Government-owned National Steel Company, reached the point of 75 per cent national coal in its blast furnaces. CONSIDER, the steel for Steel and Non-ferrous Metals, scrapped its plan to approve the use of blast furnaces, so that mills using charcoal can be used and so on.

One of the intentions of the National Steel Plan is to have a dependence on imported steel over the next few years, off a substantial part of its production. The Government is trying to improve the quality of its steel by using imported steel. It is investing \$US19.3m. in the study of new steel plants in the States of Piauí and Ceará. No short-term break-

ROLLED STEEL (in '000s of tons)							
Flat				Non-Flat			
Jan. Pro.	June Pro.	% Imports	%	Pro. Production	% Imports	%	%
1974 1.321	1.395	1.662	348				
1975 1.469	7 1.142	-18	1,837	10	331	-5	

through is likely however, and with the steel industry's coal requirements estimated to be increasing from 1m. tons this year to 2.7m. tons in 1980, imports will be continuing for some time at least. Attempts to diversify import sources have led Brazil to the Soviet bloc where it recently signed a contract to receive 11m. tons of coal from Poland over the next five years in exchange for some 5m. tons of Brazilian iron ore.

Despite the disappointing production of steel ingots, Brazil's total steel imports have at least fallen in the first half of this year, to 1.964m. tons, a drop of 15.5 per cent from the figure for the same period last year. CONSIDER's latest estimate is that imports for the whole of 1975 will be down by 24 per cent. The reason for this fall is the recession in domestic production: the car industry, for example, is passing into a period of relative stagnation, and it is estimated that steel consumption in the first six months of this year was up by only 1 per cent over the same period last year. Because of this, stocks of steel are estimated to be very high, something like 280,000 tons at the end of June. While it is good that steel imports are down, a much-reduced rate of growth is a high price to pay for it.

The best results so far this year have been obtained by rolled steel, whose fall in imports has at least been accompanied by reasonable rises in production, as can be seen from the table.

How long this rise in the production of non-flat rolled steel can be kept up is difficult to say; this sector is in the hands of private companies with outdated works and little in the way of planned investment, and it seems just a matter of time before the Government-owned steel companies move in to try to revitalise it.

The achievement of self-sufficiency in steel production is of paramount importance to Brazil, which is planning to pay off a substantial part of its rapidly-rising foreign debt (now at \$US19.3m.) by the export of manufactured articles. At present, however, steel expansion plans are helping to increase foreign debt: big loans were signed last month by two

of Brazil's Government-owned steel companies: CSN is to receive \$US95m. from the World Bank and \$US63m. from IDB to help finance the third stage of expansion at Volta Redonda which is planned to raise installed capacity to 4.6m. tons/year by 1979 (when the second stage ends shortly, production should be about 2.5m. tons/year). This project will also be financed by bilateral credits offered by countries wanting to sell equipment for steelworks, loans from Siderbrás (the State steel holding company) and BNDE (the National Economic Development Bank) and by CSN's own exports.

COSIPA, the State steel company which operates in São Paulo, is getting \$US60m. from the World Bank and \$US40m. from IDB towards expanding output at its Cubatão plant to 3.5m. tons/year of unprocessed steel. The World Bank and IDB loans are repayable over 15 years with a grace period of three years.

Exports

But if there are many problems on the steel front, at least where iron ore is concerned, Brazil appears to be going ahead, strongly. The Government-owned mining company, CVRD, increased its ore exports to 22.8m. tons in the first six months of this year, a rise of 10 per cent over the same period last year, but thanks to the rise in the world price of ore, the value of these exports was \$US280.5m., an increase of no less than 47 per cent.

CVRD is doing so well in fact, that it has begun diversifying its activities into such fields as afforestation and paper and pulp production. It is planning to invest some \$US100m. in the next five years, of which only 10 per cent will be from its own resources. Some of the rest will be

obtained on the international market, for it is on the point of selling bonds to the value of DM70m. (\$US29m.) in West Germany. This issue will be handled by a group of European banks and will have an eight-year redemption period. Interest rates have not yet been revealed. This will be the first time a company with purely Brazilian capital has sold bonds on the international market, and it is reported that CVRD is already contemplating further issues in Japan and the U.S., and furthermore that other Government-owned companies like Petrobrás and Eletrobrás are studying the possibility of doing the same.

Dependent

Most of Brazil's iron ore is at present mined in Minas Gerais; but huge deposits have been found in the Amazon, and CVRD is currently involved in a joint venture with US Steel in a company called Amazonas Mineração S/A (AMSA) to mine an estimated 18bn. tons of ore in the Serra do Carajás region in Pará. AMSA has been suffering from clashes of interest recently: US Steel, which will continue to be supplied with ore from its plants in Venezuela until 1981, despite their expropriation by the Government of that country, is now less dependent on ore from Carajás and would like to postpone the project.

CVRD, however, obviously wishes to proceed with all speed, and a solution has been found by reducing U.S. Steel's participation and looking for new partners. So far three definite ones have been found, who will take over 20 per cent of the Preference shares from U.S. Steel: a Japanese consortium led by Nippon Steel (10 per cent.), the British Steel Corporation (5 per cent.), and Altos Hornos de Vizcaya, a Spanish firm (also 5 per cent.). These three new partners will buy about 90 per cent of Carajás' initial production of 12m. tons, (which should now appear in early 1980 rather than 1979 as originally planned) rising to about half of full production in 1985 of 50m. tons. U.S. Steel will reduce its share from about 25m. to 10m. tons, and the remaining 18m. tons should be easy to sell.

The cost of the project seems to be the worst problem now: the original estimate of \$US1bn., having been revised up to \$US2.7bn. Of this, 30 per cent will be supplied by AMSA, while the rest is to be negotiated from other sources. It is reported that BNDE will loan an initial \$US60-70m.

Sue Branford

Aircraft success

RED Air Force Colonel Bandeira, a pressurised executive bimotor (Xingu) and Brazil's second mass-produced agricultural aeroplane, the Ipanema.

The only specifically military model to be produced so far is the Xavante, a Rolls-Royce-powered jet trainer built under licence from Aer-Macchi of Italy. Part of the initial order of 112 Xavantes for the Brazilian Air Force is already in operation.

The remainder of Embraer's range are all Piper Aircraft designs, a result of a pact last year between the U.S. and Brazilian companies. These include two twin-engined models, the Navajo and the Seneca, and three newly introduced single-engined aircraft, versions of Piper's Cherokee and Arrow.

Military

The Government is anxious to encourage production of other models for the Brazilian Air Force in order to lighten its heavy military import bill, and has asked Embraer to start studies for a 50-seater transport. Other projects under review include a combat jet and a licence from Aerospatiale of France to build Lambda helicopters. But these are all long-term projects. Embraer's facilities at São José dos Campos, an hour's ride from São Paulo, are already fully occupied, and production of at least 500 aircraft is scheduled for next year. "We can take on no new commitments now," Colonel Osires Silva explained.

The operation requires a working capital of about \$60m., although the level of fixed investment is relatively small—\$25m. for transport called the or less than a year's production

of Bandeirantes. The expansion programme will mean extra investments of about \$30m. in the next three years.

Although the number of shareholders has grown consistently since the formation of Embraer, the government remains the biggest with a 17 per cent stake, followed by the Brazilian subsidiary of Volkswagen and a variety of other local companies. Attracting the initial capital was a problem, and was finally accomplished by a Government scheme which allowed an income tax rebate of 1 per cent if the money went on Embraer shares.

The idea of a Brazilian air industry was not an easy one to sell, although aeroplanes of this sort have been built in Brazil since 1910 and the Brazilian aviator Santos-Dumont was flying three years after the Wright Brothers (whose claim to originality is anyway hotly disputed in Brazil). A precarious single-seater was produced in series during the Second World War, but the only notable aeroplane between then and the start-up of Embraer was a much-beloved agricultural worker called the Paulistinha, first produced by a company called CAP, now defunct, and later revived by another São Paulo company, Neiva.

Embraer, which built up a turnover of \$50m. last year, has a sub-contracting agreement with Neiva and two smaller aircraft companies, Aerotec and Motortec. Parts—such as wings and fuselage sections—are standardised between different models in order to facilitate production by the four companies. The marketing, however, is all done by Embraer.

Osires Silva ruled out the feasibility of an air industry as self-contained as the car industry. The level of output did not justify local aero-engine production, he said, while export contracts are likely in many cases to be pegged to the purchase of parts from the other country. Embraer is itself working on a scheme to send parts for the engine it buys in Europe and North America.

Novo Hamburgo

Cessna, if it goes ahead with its project in Novo Hamburgo, may also aim to capture a substantial foreign custom. The project involves single-engined models and the assembly of Teledyne motors, which will not cut into Embraer's transport and military field. But Embraer is openly worried about the prospect of having a second manufacturer in the Brazilian market, and in the present political climate it is unlikely that the Government, though an important shareholder and client of Embraer, would put obstacles in Cessna's way.

"If Cessna really starts production in Brazil," Colonel Osires Silva said, "something has to be done. . . . It's going to be tough for both of us—we are not here to lose money."

David White

هكذا من العمل

CAL

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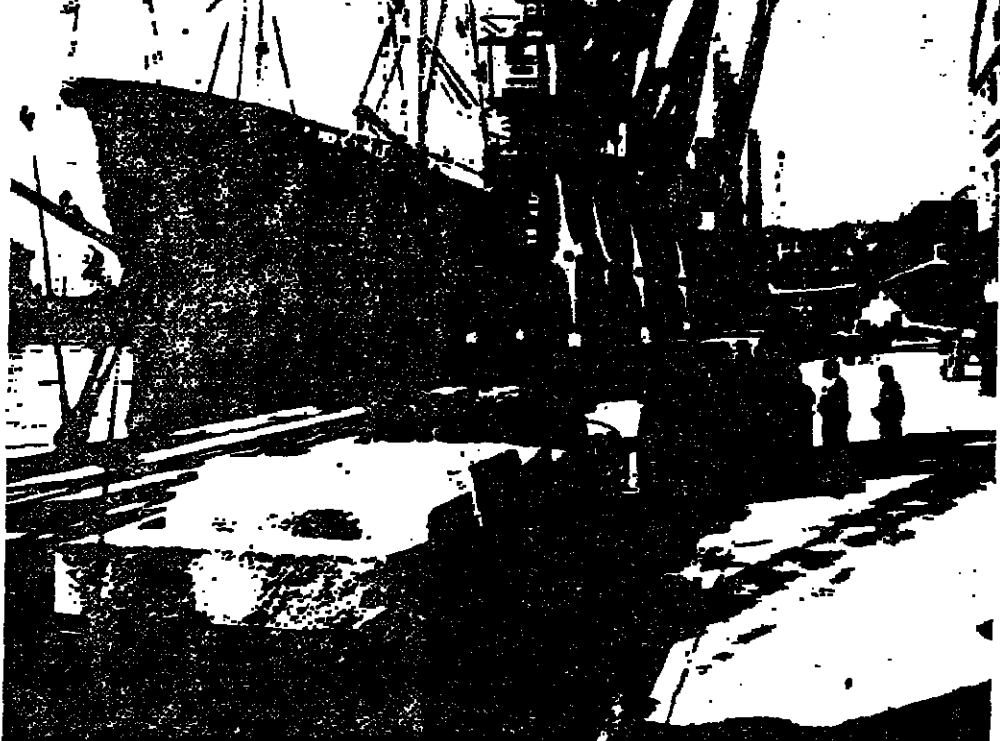
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THE AMAZON region already has 8,750 miles of roadway cut into it. Nearly all the road projects, which have been going on now for five years, are broken at some point by stretches of swampy mud where the builders are condemned to endless toil to try to make them passable. But the Transamazonian Highway and on the other side of the Amazon the Northern Perimeter road still press on towards the borders of Peru and Colombia, where, with no other roads to meet them, they are probably the world's grandest garden paths.

In the case of the Transamazonian, Brazil went up the path without so much as a viability study, led by President Médici's political vision of "integrating" the country by road. The success or failure of that vision is another matter, but the appeal of roads to the popular imagination is certainly one reason why Brazil has become so overwhelmingly dependent on them. In the light of afterthought and the oil crisis, the present Government is now looking to its other options.

In contrast to other countries of similar or greater scale, such as the U.S. and the Soviet Union, where most goods travel by rail, three-quarters of Brazil's transport goes by road. Unable to backtrack entirely, the Government plans to reduce this proportion to just over half in five years' time.

The situation in the other branches of ground-level transport can be summed up as follows. The railways are outdated and inadequate, inland waterways largely unused, coastal shipping uncompetitive and inefficient, and suburban transport systems clogged and chaotic to the point of provoking riots and arson.

The emphasis on roadbuilding started long before the projects to open up the 59 per cent of Brazilian territory which lies in the underpopulated Amazon region. The car industry was established around 1955, and since then the burden of road programmes and the growth of the industry have been chasing each other up in a spiral. Some city administrations, such as in Belo Horizonte, are now beginning to have second thoughts

about the costly expressways which as often as not fail to reduce congestion because they encourage more people to buy cars rather than use public transport.

Roads are still the biggest cost item. Under its National Development Plan between now and 1979 the Government plans to spend \$4.1bn. on roads compared with \$3.7bn. on reviving and extending its rail network; in the last three years half the transport budget went on roadbuilding.

Meanwhile it is setting about repairing and improving the existing road network and completing the major projects. In the five year programme, it aims to add another 7,000 miles to the 42,400 in existence, paving over a further 10,800 miles and making 1,200 miles dual carriageway.

In recent years, it has more than completed its road-building targets, except in the controversial Amazon project. Not that the arguments are confined to Amazonia. Rio de Janeiro, which last year inaugurated an eight-mile-long bridge linking it with the town of Niterói across Guanabara Bay, is due to be joined by a coastal road to Santos, the port of São Paulo, currently reached by a faster inland route.

The road, cut along a coastline of fine bays and luxuriant sculptured mountains, is above all a tourist venture, opening up a region that has been largely inaccessible ever since the first settlement. It is so far about 18 months behind schedule, with the first 156-mile stretch just

completed at an estimated cost of \$1m. a mile. Construction has been hampered by rain year after year, longer than the entire railway planned damage and difficult terrain, way system and not far short of the road system. The potential of the waterways as transport routes has hardly been touched. The future importance of the São Francisco river, for instance, which flows from the industrial growth state of Minas Gerais through Bahia to the north-east coast, where it forms the border between Sergipe and the Alagoas, is now being compared by some to that of the Mississippi.

Treachorous

Much-needed funds are also being channelled into improving safety on existing roads, often made treacherous by weather damage and neglect. Brazil has only 4m. vehicles on its roads, one for every 28 inhabitants, but has been regularly scoring up rates of over 10,000 traffic deaths a year. About 20 per cent of accidents are estimated to be caused by road conditions.

Meanwhile the Amazon network has still to be completed, including a long, looping road from Brasília to Manaus and on to the Venezuelan border where it will connect with Caracas. This, like the Brasília to Belém highway which is already in operation, may well prove far more valuable than the more famous east-west routes.

The east-west route which has come under harsh criticism Transamazonian tended to ignore was the Amazon, in fact, the Amazon, for 1,000 miles up river at least, is used more fully than the rest of the country's rivers. According to the Transport Ministry, there are 32,500

miles of inland waterway use. The same argument is given for at least part of the in the Amazon over an able for the entire railway planned the Serra dos Carajás iron deposits, which will be exported out of the State of Maranhão. In both cases, which will be a means of the colonisation.

These arguments are unopposed to the rail programme, to deter the rail programme as much as the serious difficulties of recruiting, and too is now being compared by some to that of the Mississippi.

But the sector that is likely to gain most in importance in the next few years is rail. At present the railways carry a mere 16 per cent of Brazil's total traffic, and it is planned to double this share by 1980. The government has earmarked \$3.7bn. for rescuing old lines, changing gauges, electrifying and buying new stock.

Most of it serves the industrial heartland of the south-east, the most urgent project being a 530-mile line from Belo Horizonte to São Paulo, with a spur to the steel complex at Volta Redonda, in upstate Rio de Janeiro.

The so-called Steel Railway has come under harsh criticism at the Belo Horizonte end of the track, where many object to a project that simply channels more ore from Minas Gerais into industrial activity elsewhere, while Minas Gerais still has too few jobs to go round.

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David W

Telecommunications

IF THE CITIES could only stop growing for a year, we might have a chance. A Government communications expert wistfully commented as he told of the frustrations of trying to keep up.

In one district of São Paulo, the telephone company brought in 30,000 new phones. In three days they were sold out, and police had to be brought in to sort out the fight on the fourth day. The congested link between São Paulo and Porto Alegre was expanded fivefold in one operation from 180 lines to 960, which after a fortnight were again congested.

In Rio, Communications Day this year was preceded by torrential rain the night before which put part of the city out of contact.

Expanding the country's telephone network is the major spending item in a \$2.8bn. priority programme for communications between this year and 1979. Brazil at present has only 2.5m. telephones in service, or one for every 42 inhabitants, but the Government plans to bring in another 5.7m. by the end of the programme. Demand is expected to remain some way ahead of this.

In order to bring in the outlying regions of Amazonia and the Centre-West, which still have sparse links of any kind, the Brazilians are drawing up a domestic satellite project. This will be put up for international competition in September or October, and it is hoped to have a satellite in operation before the end of 1978.

Satellite

International connections are meanwhile being built up, and a new submarine cable is planned between Brazil and the southern coast of the U.S. The only submarine cable link in operation runs from Brazil's north-east coast to the Canaries, where it connects into the European network. The cable links will be backed up by greatly increased use of the Intelsat satellite system.

A two-year project to quadruple the availability of telex services within Brazil is already well under way, but the pressure on these services, especially in the business centres of the south-east, is increasing.

Radio access to the remotest corners of the country is still weak, but the State-owned Embratel company is working on a stronger transmitting network. At the same time, the Government plans to rationalise its own radio stations and give support to the private ones operating in the north, where all that many people can hear on their transistor radios are transmissions from Guyana, or worse, Radio Havana.

The main problem is that telecommunications have never been given this kind of priority before, and that existing systems have been left in urgent need of modernisation. In 1969 only two cities, Rio and São Paulo, were connected by direct-dialling telephones, and although this has since been increased to some 180, it is usually more difficult to get a line to

another city inside Brazil than none and only 30 have inter-urban connections. The telephone companies 1,250 miles from Rio, has just five towns with telephones.

The telephone companies themselves are in urgent need of co-ordination. Brazil has no fewer than 788 of them, of which 429 belong to municipal authorities. The State of Minas Gerais alone has 201 telephone companies, although only half urban areas of São Paulo, Rio de Janeiro and Belo Horizonte, all. Ideally, the Ministry of Communications is trying to now wipe out the deficits many of them were operating under before. Overall, it is hoped that all but 5 per cent of the priority investment programme will be financed by the sector itself. This still means having to cover a loss on postal services, which are also having to cope with a sharp increase in usage. Last year the number of objects posted rose by 27 per cent. To speed up the service, special night flights are now being run between the seven major cities.

One of the principles the Government has been firm about is that Brazil needs com-

munications systems, specifically for its own requiring greater control companies involved. The equipment is made in subsidiaries of foreign companies with Standard Electric of ITT and Ericsson by them controlling 80 per cent of the market, and the J. company NEC responsible most of Embratel's links.

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هك ا من الفصل

Three threats to individual freedom

POWER of the State continues to increase. The freedom of the individual is still being ascribed. These dangers are always present when government sets out to give social conditions by the use of the bureaucracy or to extend the freedom of the individual at the expense of the collective. Yet the democratic-minded half of the Government continues to rule by its democratic other half. The possible disservice to a democracy is being done by Ministers and others who know very well just what the Government's decisions will increase the authority of the bureaucracy, which will not, and who will go along with the democratic decisions because they delude themselves about the continued existence of the Labour Party in its present form is the highest possible.

One reason for this is the fact that the Labour Party is based on a revolutionary doctrine that the revolutionaries who are in the Party right now are smothered by keeping where they are—in the Party. This cannot be true, for if the price of keeping in the Party is acquiescence in the most collectivist of their policies.

It is far more respectable to believe that a Labour Minister is still the best person to have in the Party who wish to alleviate the worst-off in society. This may well be true, but it can now be argued that the degree of plausibility

Ploy

On the more detailed level, several Government actions that still remain to be taken are at least hangovers from the pre-Labour era. If they are not taken, they are continuing reminders that the pressure on our freedom is felt persistently on all fronts, nearly all the time. The trouble with most of these Bills, ministerial decisions, and policy announcements is that they are nearly all muddled: you can usually find something to be said in their favour and this very fact blurs the vision of what is so terrible wrong about them. The muddle can be dizzying: that is why the



Three Ministers whose decisions affect individual freedom: (from left) Mr. Anthony Crosland, Mr. Michael Foot, and Mrs. Barbara Castle.

threats to our freedom are so insidious. Take, for example, the Community Land Bill. This is not quite such a threat as it may seem at first sight because it will either collapse under the weight of its own absurdity or, if passed, be kept in cold storage for lack of finance until the Conservatives repeal it—which they have promised to do. Yet it is still there, and the Government is apparently so anxious to avoid the criticisms of its collectively-minded half that it is running two Bills simultaneously through the Commons and the Lords in an effort to make sure that the original Bill, as amended, can be passed in the forthcoming over-hang session of Parliament. Of course if this ploy fails the Community Land Bill, along with many other ludicrous or inhuman amendments, will be rejected. This would have to be started all

over again in the new session that begins in November. What is there good to say about this Bill? That together with its sister Bill on taxation of gains on development land it aims to take for the community some of the development gains that have been made possible by the community's planning decisions. This can and should be done by taxation, turning local authorities into estate agents (and imagine an estate agent with official powers!) is unnecessary, destructive of freedom, and, we must hope, unworkable. Again, it might be said that the Bill, as amended, is not nearly so bad as it was when it first saw the light of day—and that it might be made even less unpalatable when further amendments are agreed. The amendments have taken some of the worry from churches and

with the land when they have acquired it... he has control over the allocation of functions under the Act as between authorities... he can transfer the powers of an authority to himself or to another authority or to a body specially set up for the purpose if he deems it expedient.

Expected amendments may slightly circumscribe the first-mentioned powers, but in essence even that one is likely to survive all stages of the Bill, as long as the Bill itself survives. And it must be remembered that the Secretary of State referred to in these clauses is in practice likely to be a civil servant. He may not be particularly senior. Those who wish to be comforted by the presence at the head of the Department of the Environment of Mr. Anthony (Clay Cross) Crosland—but most of us will not see this as an iron bulwark in defence of the rule of law.

Again, take the Government's payment-of-fees-due to the Trades Union Congress: the Employment Protection Bill (now going through the Lords) and the Trade Union and Labour Relations Bill (marking time in the hope of a settlement with journalists and newspaper editors on the matter of the closed shop). You can say about the first of these Bills that it provides a useful new machine for arbitration, or even that in its much-disputed clauses on disclosure of information it merely seeks to bring British practice up-to-date with what the most enlightened Western European firms already do. Of the second it can be said that it merely seeks to restore the law to where it was some years ago and that halfway-house concessions (allowing editors to belong to a union other than the National Union of Journalists and freeing outside contributors from the obligation to join the NUJ) are apparently under consideration.

What you cannot say about either of them is that the individual who may not wish to belong to a trade union, or even a particular trade union, is given any extra legal protection in any of the many clauses of these Bills (religious grounds are allowed) while just about every clause, sub-clause, section and subsection in both of them increases the powers of either trade unions or Government officials over the working lives of every employee. You need the outlook of a Portuguese Communist to believe

Attack

It would be a sad enough attack on minority rights if a majority of the people of this country had decided that the freedom to spend money on private health care would eventually be rationed (abolished?). As it is, the people whose actions are threatening to limit this freedom—a handful of unrepresentative trade union officials, a few disgruntled hospital workers, and Mrs. Castle—probably do not speak on this issue for as many as a fifth of the people of this country, although on other issues Mrs. Castle's political instincts may be more sound. I have given three examples. There are others. Most members of the Cabinet know which they are. A handful do stand up for democracy. Will the rest of them ever pluck up their courage?

Resigned

We are a long way from Cerebral Dawn. It is 21 years since a Conservative Minister for Agriculture, Sir Thomas Dugdale, felt obliged to resign because in a matter of land disposal two committees of inquiry had found fault with the behaviour of some of his Department's civil servants. "In present times," said one of those now-disputed reports, "the interests of the private citizen are affected to a great extent by the actions of civil servants. It is the more necessary that the civil servant should bear constantly in mind that the citizen has the right to expect, not only that his affairs will be dealt with effectively and expedi-

Letters to the Editor

Mr's financial

Mr. F. Waddams

Gordon Tether's article on the North Sea oil (Sept. 15) is admirable. Mr. Jenkins' report (Sept. 8) alarming, coming as it is from the "Shadow" man-on-Energy. Some of the good reasons for setting up a British national oil company are mentioned below: it is too important a business to be left to private sector oil companies, particularly when quarters of these are in-vested in multinational oil interests and objectives only conflict with national interest; the world oil resources have a national company, except the U.S.A. (Canada where the federal government creates constitutional obstacles), and even in these two cases the establishment of a national oil company has been seriously considered.

The aim of almost every country to have a significant part of its oil requirements under the control of its own government, whether of the public or private sector. As the private sector is under any country except the U.S. to produce more than a fraction of the enormous oil resources required, it is not surprising that the State should want to control these resources and ensure control of its domestic operations. It is not primarily for a benefit that the State should reap its profits—but its oil both for economic and defence reasons. The oil which arises when this is so were well illustrated in 1973 crisis of oil supply.

Standard methods of national oil company operation in oil-producing countries ensure for its part that it participates in development and management of national oil resources. It is the necessity to find public funds in advance of capital resources for joint venture agreements, usually for the private sector oil company, provides with-investment all exploration and development expenditure; and the State of development expenditure is frequently reimbursed from the proceeds of the oil.

The State, being the owner, controller and of the oil resources, is in a position to participate in development on the best commercial terms. It is not to be denied that it is in the interest of all companies who, recognised, contribute great resources and skills. But the responsible of them have a statesmanship to accept that changes in attitudes and know how much considerable and fair to the U.K. Government is almost every other country with a BNO and with participation in existing oil concessions, the financial conditions to oil concessions in the North Sea are favourable and stable than elsewhere in the world. No while oil company, domestic or foreign, will be sned away from playing its part in the development of the North Sea resources by creation of a national oil company.

Jenkins' assertions about appalling results of Government policy, and his balance of references, are not improved, but demonstrated incorrect. The British

Attribution of the expected and inevitable difficulties and setbacks in the development of North Sea oil to the present Government's intention is an irrational as would be a claim that former or present Governments were solely responsible for its phenomenal success rate.

The statements made by Mr. Jenkins and Mrs. Thatcher on the subject expose the Conservative Party in an attempt of being the mouthpiece of the oil company lobby, and suggest a flight from the knowledge and understanding of all that has gone on in the world oil industry and government relations in the past few years. A threat to reverse the new legislation is another instance of political folly which may help to blight the prospects of improvement in the country's economy. Frank Waddams, School of Management Studies, Polytechnic of Central London, 35 Marylebone Road, N.W.1.

Out-of-date banking

From Mr. E. R. Taylor. Sir—I read of Mr. Pattison's Scottish holiday experiences (September 18) and his problems over the £30 cheque card limit with interest. While £30 a day is the norm against a cheque card, any creditworthy customer can arrange in advance for larger amounts to be available at any named clearing bank branch in the U.K. where he does not know in advance where his travels will take him, travellers' cheques are the answer. These are accepted by any clearing bank as well as many other establishments including hotels. In addition, if they are lost, unendorsed, an immediate refund can be obtained.

Some may assume from Mr. Pattison's letter that banks in England also close during lunch hours. This is not so. We are open all day from 9.30 a.m. to 3.30 p.m. E. R. Taylor, 2 Christchurch Road, Bournemouth, Hants.

Cash on call

From the General Secretary, National Union of Bank Employees. Sir—Mr. Pattison's letter (September 18) which, among other things, called for greater facilities from banks was interesting and provocative. The banks themselves can no doubt answer Mr. Pattison's queries but with their customary public reluctance may be disinclined to do so.

As the union for banking, can I say that the answers to his questions are: (i) Yes, customers should be taught about cheques and cheque cards; (ii) Yes—clearly the £30 cash withdrawal limit must be adjusted because of inflation; (iii) No—there is no major evidence that current opening hours are causing real problems for customers; (iv) Yes—if this means a more adequate installation of and publicity about cash dispensing machines in various branches. I trust Mr. Pattison enjoyed his holiday in Scotland and no doubt will take up with all the other appropriate authorities any other minor inconveniences which he suffered and ensure that in his mind the excellent service which British banking provides to the public is viewed with the appropriate amount of perspective. Left Mills, 2 Holly Road, Twickenham.

Drydock working

From the Managing Director, Swan Hunter Shipbuilders

Sir—From the article by James McDermott (September 18) about industrial relations developments at Vosper Thornycroft it could be thought that it is a new development to allow a vessel's crew to work when their vessel is in drydock. Such arrangements have been common practice in Continental Scandinavian yards for several years. My own company negotiated such a formal agreement with its workforce in January 1972, which has proved to be very attractive to shipowners, both British and foreign. While congratulating Vosper Thornycroft and their unions on their good sense, it must be pointed out that our Tyne yards are ahead of the Southampton area in this matter and have three and a half years of practical operating experience behind them. A. J. Hunter, P.O. Box 14, North Shields, Tyne and Wear.

The ship of state

From Mr. Tony Ball.

Sir—What a pleasure it was to read of the wholehearted and progressive agreement that has been achieved at Vosper Thornycroft, Southampton (September 18). One of the many competitive problems that face shipbuilders in this country, is that of the crew of a ship working in drydock, a feature which is accepted as normal on the Continent. We at Bristol Channel Ship Repairs successfully negotiated these and other conditions some seven years ago.

It is sad to realise that such examples of level-headed beneficial agreements that can be achieved on an individual company basis, for the good of everyone, seem absolutely impossible in the vast machinery of State-controlled industries.

Far from a levelling up there seems to be an unavoidable dragging down. Tony Ball, Bristol Channel Ship Repairs, Channel Drydock, Cardiff.

Sandilands—a milestone

From Mr. E. W. Holland

Sir—The correspondence in your columns on the Sandilands recommendations—an important milestone in company accounting—has been very interesting.

The latest issue of Accountancy Age, reports that Shell converted the £1bn profit shown in its accounts for this year by applying the Current Cost Accounting indexed technique. The result was a staggering £800m loss.

The importance of such revelations are that—Taxation in very large sums has been paid on such fictitious profits of many companies and spent on Government projects. 2. If the profits were correctly losses, then such taxation represents payments out of company capital to the Government—which has promptly spent it on revenue expenditure which we should not have been spending because we couldn't afford it. 3. It has been known for several years (using CCA and replacement cost methods) that many company reported profits

were, in fact, losses. But very little has been done about it except that companies increased prices and dividends and trade union increased wages.

Unless we do something positive about it soon we shall have the Chomies of Zurich over here—acting as receivers and managers to recoup their multi-million pound loans. What should be done is quite clear:

(a) The Government should govern or it should form a coalition of the best brains to do so. It should tell the trade unions the truth—that management and Government do not pay wage rises—these are financed out of profits. Profits are made by operating full time at nearly full capacity and selling abroad at competitive prices. Any failure to do these things results in mass unemployment. To speak of full employment is therefore hypocrisy.

(b) The Government has no choice but to remove from its expenditure programme all those items which we cannot afford.

(c) The Government should use CCA to ascertain the erosion of national capital and use CCA in future for its own figures and publish them.

(d) All companies should produce balance sheets on CCA principles as a matter of urgency, not wait until 1978 to see the extent of the damage.

(e) A determined investigation into the original source of every price rise should be made by a specialist Government team. The Prices Department does not appear to be having any success in this; anyone who has telephoned the local prices office will know what I mean.

(f) Our own factories rely on internal consumption to cover the break-even point of fixed costs. Surely the unions are aware of this. We must teach our nation that to buy home products is to avoid permanent large scale unemployment. To benefit by a price reduction in the short term could be to suffer for years to come from lower living standards.

The Sandilands Report could be a milestone back to a return to full employment and a sound economy. Ignored, we can be on the road to economic collapse. E. W. Holland, Coopers Buildings, Church Street, Liverpool.

Inflation accounting

From Mr. B. Prodhan.

Sir—The Sandilands report on inflation accounting has criticised the CPP method because, among others, CPP does not satisfy the following criterion: "The unit should be the same for all enterprises—presenting financial statements" (criterion 3, para. 146).

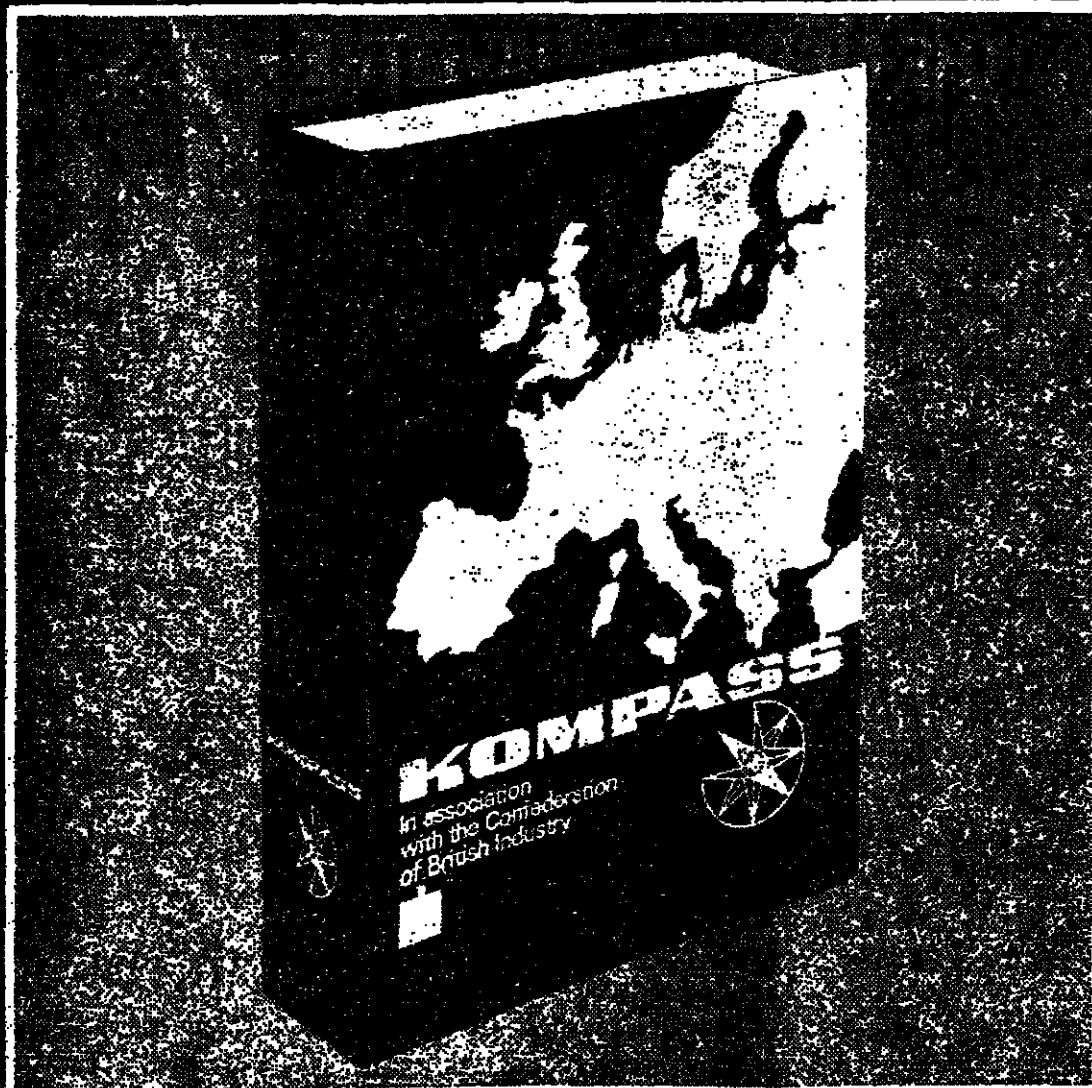
Further, para. 412 reads: "... companies which have different accounting dates will therefore draw up supplementary statements in terms of different units."

This problem of different accounting dates will remain even if the Sandilands recommendations are fully accepted. Since the whole concept of financial accounting is now in a melting pot, this might be a suitable time to think of all companies having a common financial year (to coincide with the calendar year or tax year, for instance). This will make comparison of financial performances not only easier but also more meaningful. B. Prodhan, 49 The Lane Blackheath, London, S.E.3.

To-day's Events

- Prime Minister speaks at National Club Show lunch, Manchester.
- Mr. Edward Short, Leader of House of Commons, holds development talks with Scottish Office officials, Edinburgh.
- Mr. John Morris, Secretary of State for Wales, meets deputations from NCU Council for Wales seeking cash aid for Welsh farmers, London.
- British Mechanical Engineering Confederation, in association with NEDO, holds meeting of financial, industrial and trade union representatives in effort to encourage City institutions to invest in capital goods industry, London.
- National Union of Mineworkers' executive meets NCB to press for joint deputation to Mr. Anthony Wedgwood Benn, Energy Secretary, on need to proceed with coal-fired power stations, London.
- CBI financial policy committee meets, London.
- PARLIAMENTARY BUSINESS House of Lords: Employment Protection Bill, committee.
- COMPANY RESULTS Amalgamated Investment and Property (full year).
- Barratt Developments (full year).
- Belam Group (full year).
- Combined English Sures Group (half-year).
- United Newspapers (half-year).
- COMPANY MEETINGS Cooper Industries, Dudley, 12.15.
- Heinz (H.J.), Hayes, Middlessex, 12.30.
- Hillards, Ossett, 12.30.
- Millingworth, Morris, Shipley, 12.30.
- Marling, Connought Rooms, W.C., 11.30.
- EXHIBITIONS Electronic Instrument Exhibition opens, Bloomsbury Centre Hotel, W.C.1.
- London International Footwear Fair opens, Earls Court.
- SEMINAR One-day seminar on research supported by Department of Energy's Offshore Energy Technology Board into effects of winds, waves and currents on offshore oil and gas structures, National Physical Laboratory, Teddington, Middlesex.
- MUSIC London Philharmonic Orchestra, conductor Bernard Haitink, with Stephen Bishop (piano) play Walton's Partita, Beethoven's piano concerto No. 3 in E flat, and Dvorak's symphony No. 8 in G, Royal Festival Hall, London, 8 p.m.

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New paths in drug research

HARMACEUTICAL In the pharmacist's armoury at present. At one end of the spectrum we still want cures for killers such as cancer, serious virus diseases such as influenza, and degenerative diseases of vital tissues such as the brain, heart and the liver. At the other end are more "trivial" medical problems—colds, migraine, hangover, obesity, alcoholism, allergies.

By what criteria does the drug industry choose its targets for research? There are several criteria that must influence any organisation—commercial or otherwise—in devising a drug research programme. One is an essentially scientific judgement of about where the promising leads lie, and whether the company can bring first-class research talent to bear on those leads.

Naturally enough it will tend to pursue those directions in which it has already achieved notable success and built up its skills. Examples are the family of semi-synthetic penicillins from Beecham, the family of "beta-blocker" heart drugs originated by ICI, the anti-asthmatic achievements of Fisons. The problem it then encounters with a vengeance is that once a good drug exists it is usually still more difficult to supersede it with a drug that is both more efficacious and safer.

Very effective drugs exist today for such bacterial killers as pneumonia, septicaemia, typhoid, VD, tuberculosis and leprosy. Another yardstick a company will use is to choose the diseases that are still big killers, or which are responsible for high rates of occupancy in hospital beds. The killers include cancer, arteriosclerosis, the Gonsackie viruses (including meningitis) and influenza. In many ways these are the fashionable areas of medical research, but none the less difficult. Despite impressive progress in some aspects of heart disease, the sad fact remains that the drugs used bring their own dangers. With cancer, the borderline between healthy and cancerous (proliferating) cells is so fine that any drug that will attack cancer is almost by definition a dangerous drug.

widely publicised and more disturbing is the at drug research, like her sectors of research, ing inherently more

er possibility, however, the drug industry has ad for too long with the search mission, namely is of new chemicals that have a significant and ntly specific biological. Only about one in f the chemicals it creates o have the right com a of efficacy, safety and size to reach the icists' shelves. eassy enough to find gaps

Productivity

Drug industry's research have risen dramatically in a past decade or two, s productivity in terms new drug discoveries lined. According to Dr. Spinks, director of re- for ICI, over a 20-year rm the early 1950s the investment of the local drug industry n-fold, from £80m. to a year, while the pro- in terms of "distinc- ings" fell from 40 to 19

rch is to drug manufac- capital investment in plant is to other sections chemical industry, and dramatic decline in ivity must give cause ern. Various reasons en publicised by the—that it is inherently ntensive activity, for and that burgeoning concern with drug as thrown a heavy addi- urden on the manufac-

Pinnacle

A third criterion by which a company will choose its research targets is going to be the prospect for selling the product continuously to a patient over a long period. The Pill, in its present form, represents the pinnacle of possibility for this requirement, although other examples include drugs for the alleviation of arthritis and rheumatism, tranquillisers and sleeping pills, and insulin in the case of diabetes.

One final criterion must be mentioned—the excitement that surrounds the isolation of a

Infusion

Professor Berkett points to Alza's liquid infusion system whereby a patient can be given a continuous drip-feed of a drug without any of the embarrassment of a normal drip-feed, or the inconvenience of frequent injections. The system straps unobtrusively to the patient's arm, injecting the drug from a cartridge into a vein at an unvarying rate. It might be the answer to the risks associated with such dangerous drugs as those used to treat cancer.

The latest of Alza's ideas, described by Dr. Jane Shaw, one of its researchers, at the Pharmaceutical Society's conference, is also a way of harnessing drugs usually believed too dangerous to be left to the patient for self-administration. It is an adhesive disc about an inch in diameter which, when stuck to the skin like a sticking plaster, allows the drug to leak slowly into the skin from a sac on its back.

Alza expects this "trans- dermal therapeutic system" to reach the market in the U.S. next year, as an antidote to travel sickness. The drug used, hyoscine, is an alkaloid normally considered rather "strong medicine" in effective amounts for this trivial yet highly debilitating affliction. Like the Ocusert, however, this idea is seen just as the first of a family of highly efficacious "sticking plasters," delivering drugs effectively against migraine, heart disease, hypertension and other diseases where there are serious risks with the latest drugs in relying too much on the patient's co-operation.

Tear ducts

Dr. Zaffaroni's company, Alza of Palo Alto, set about designing new delivery systems for a number of existing drugs, some of which although potent were believed to be too troublesome or dangerous for effective therapy. Its first target was the eye, normally tricky to treat because of the efficiency with which the tear ducts irrigate the organ. Alza researchers encapsulated pilocarpine—a drug efficient in reducing the high intraocular pressure associated with glaucoma, a major cause of blindness—in a minuscule plastic sac called the Ocusert that tucks comfortably beneath the lower eyelid. Where normally the patient would need eyedrops four times daily, the Ocusert leaks the drug steadily over the eye for seven days.

Alza's answer to the difficulties of any further reducing the doses of contraceptive drugs in order to lessen their side-effects

Scottish Tories back switch to PR for Assembly elections

BY CHRIS BAUR IN GLASGOW

SCOTTISH Conservative Party leaders yesterday added to the growing pressure for electoral reform by announcing that they favour the use of proportional representation for elections to the proposed Scottish Assembly.

They say this is an essential safeguard against the possibility of a Scottish Nationalist-controlled assembly being used to wreck the U.K. constitution without majority Scottish support.

The proposals were outlined by the party's devolution spokes-

Critical

Mr. Short will discuss with party colleagues and Scottish Office officials the Government's second devolution White Paper due to be published next month.

Mr. Rifkind was critical of the Government's "rigid neanderthal approach" to constitutional reform evidenced by its rejection of PR for assembly elections—the one unanimous recommendation of the Kilbrandon Commission on the constitution.

The Conservative proposals for using the single transferable vote in multi-member constituencies come from a party committee under Mr. Rifkind. They still require the ratification of the "shadow" Cabinet.

Mr. Rifkind stressed that they were not relevant to the party's simultaneous debate about electoral reform for Westminster seats.

He said that Scotland's post-war political situation offered "fertile ground for experimentation with new ideas." Unlike

More divided

Scotland was also unique in that no party—except in 1955—had secured the votes of a majority of the electorate. The assembly should reflect the reality of Scottish voting allegiances which were more divided than those in England and Wales.

However, it is concern about the consequences of Scottish National Party growth which has clearly exercised the Tory leaders most. Mr. Rifkind said that the present position, where a Labour Government achieved a Westminster majority with only 39 per cent of popular votes, was never satisfactory but was "at least acceptable if there is no great constitutional gulf between the parties in Parliament."

He added: "Such a gulf would be present in the assembly as the SNP members would be determined to promote the destruction of the U.K. and would seek to use the assembly to that end."

Under the present electoral system it was not impossible that the SNP could in future control the Assembly with only minority popular support. "Given their determination to destroy the U.K. that would be a recipe for disaster similar to recent events in Chile," he said. The use of PR was a fair, imaginative and vital safeguard against extremists.

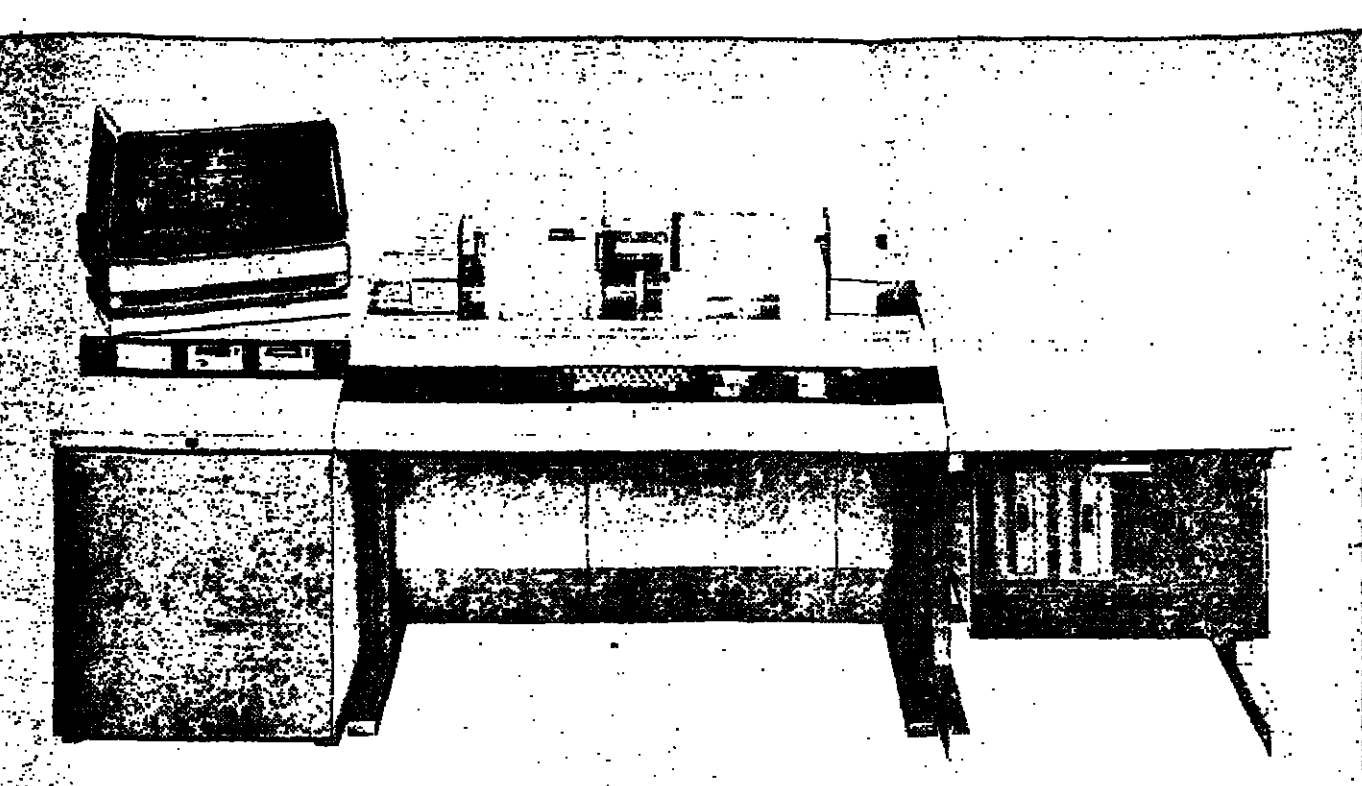
"We want to assure the Scottish people that the assembly should be an extension of the democratic process, not a threat to it," he commented.

The group will shortly publish further recommendations on the powers of the assembly and its relationship with Westminster.

HAVEN AUTOMATION ABERDEEN BASE

Haven Automation, the Swansea and Pembroke Dock-based company that offers world-wide services to the marine and land-based process industries, has established a base at Aberdeen. Service Supervisor will be Mr. Alex. Campbell. The company will share St. Clair Street premises with Engineering Services (Aberdeen), a Seaforth Maritime company.

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Summary Audited Consolidated Balance Sheet 30th June 1975			
	30 June 1975	30 June 1974	
Assets	£'000s	£'000s	
Cash, Certificates of Deposit, Money at Call and maturity within one month	64,044	55,952	
Deposits with Banks under one year	7,422	30,075	
Loans to Commercial Customers			
Under one year	23,645	13,605	
Over one year	45,296	39,585	
Other Assets	10,291	8,191	
TOTAL ASSETS	£150,698	£147,408	
Financed by			
Share Capital and Reserves	10,495	7,894	
Six month rate Subordinated Loan 1984	—	2,512	
Certificates of Deposit Issued	5,703	9,753	
Deposit, current and other accounts			
From Banks	109,986	117,211	
From Others	19,673	6,374	
Creditors & Taxation Provisions	4,841	3,664	
TOTAL FUNDS AVAILABLE	£150,698	£147,408	
Profit before Taxation and Subordinated Loan Interest	£ 573	£ . 413	
Subordinated Loan interest arose only in year ended 30th June 1975.			

For a copy of our Annual Report and a full picture of the accounts, please write to: Russell Taylor, Managing Director, Italian International Bank P.O. Building, Leadenhall Street, London EC3V 4PT.

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S. G. Warburg & Co. Ltd., announce that the Semi-annual redemption instalment due 1st October, 1975, has been met by payment to the market of the nominal value of £10,000 and by a drawing of Bonds to the nominal value of £13,500.

The distinctive numbers of the bonds, drawn in the presence of a Notary Public are as follows—

000 BONDS Nos.—3891
00 BONDS Nos.—7434
00 BONDS Nos.—

31	64	149	191	310	430	485	541	597	657	706	758
91	896	897	898	1043	1154	1227	1300	1348	1425	1485	1536
78	1649	1715	1761	1854	1868	1943	2010	2117	2168	2228	2282
10	2361	2390	2451	2534	2601	2698	2734	2769	2847	2924	2976
29	3083	3152	3236	3299	3381	3433	3476	3552	3611	3681	3700
42	3907	3998	4044	4115	4184	4234	4304	4361	4404	4467	4540
02	4568	4620	4702	4826	4996	4956	5000	5106	5206	5284	5320
50	5474	5528	5601	5660	5711	5775	5839	5894	5950	5997	6033
89	6135	6186	6235	6272	6332	6444	6496	6544	6604	6674	6714
55	6861	6920	6988	7001	7063	7105	7185				

On 1st October 1975, the bonds will become payable at the new par value of £174 for each £100, either with accrued interest to said date or at the office of S. G. Warburg & Co. Ltd., 55, Abchurch Lane, London EC4N 3DF.

Interest will cease to accrue on the Bonds called for redemption on and after 1st October, 1975. Bonds presented for payment must have attached all coupons maturing subsequent to 1st October, 1975.

19th September, 1975

FINANCIAL TIMES SURVEY

Tuesday September 23 1975

DATA PROCESSING

For a country with the design and manufacturing capabilities of Britain, the performance of the country's computer companies remains disappointing. With rapid changes in demand, a major problem is to respond to changes in technology.

aler
nade
f
eficit

LONG last the U.K. after producing industry appear to be shifting out deep red into somewhat hue of deficit, or so the recent trade figures indi-

ports in the first half of year at £154.8m. were used by imports at £185.7m. at the deficit came to £30.9m. compared with £39.3m. corresponding period of Taking inflation and the hard course of sterling in period this is no mean achievement. But while it may rage the sponsoring and the trade associa-

the deficit is still far too for a country with the and manufacturing capa- s of Britain. It is still incurred because too little manufacturing, taking in y-made components and sembles, is being carried in Britain and any further age of sterling against peas currencies will only to underline that point.

For U.K. users, the prime concern is that hardware, main- tenance and software costs may continue to increase and—after some recent analyses of what to expect on the computer front, made by U.S. experts—they must wonder whether their present equipment will con- tinue to be supported in a few years from now.

Possibly the gloomiest pre- dictions come from Shearson Hayden Stone of the New York Stock Exchange. This firm de- fines three cardinal errors, any one of which is fatal to the computer company making it: concentration on too narrow a product range, maintaining an obsolescent technology and per- sisting with a non-compatible line or lines.

Every U.S. company except IBM and Burroughs is seen by it to be guilty of one or more of these errors, with poor profit margins and low returns on assets as a result, and a demise concerning which only the ul- timate date is in doubt.

CDC is judged by the firm to have too narrow a range and the sole option of concentrating on peripherals. Honeywell has "compounded an irrational pro- duct line" by taking over another non-compatible line (GE), and is forced to maintain old and new lines so that higher costs "coupled with departing customers put the company in the red."

Sperry Rand was also saddled with obsolescence and a product line burden from elsewhere and while the situation was not yet severe, profit margins and cash



Three visual displays on a Honeywell 58 computer.

started on the crux of the data processing problem which is the provision of an adequate local minicomputer industry, the fostering of a peripherals expertise and the creation of an infrastructure able to provide the sub-assemblies and high technology components which are essential to a success- ful computing industry.

—continuity of equipment sup- port which, on this side of the Atlantic, demands firm Govern- ment assurances for the survival of ICL even though the latter's leaders say, or said, that by 1976 support would no longer be needed.

Another aspect of security is that of the information handled by the equipment which is under attack all the time either for fraudulent purposes or for abstracting facts which the intervenor is not entitled to know. The situation in the U.S. is bad, with an estimated total of over 300 frauds involving computers in 1974 each averag- ing around £1m. Particularly difficult to unravel, even by experts who know the system which has been tampered with, the computerised fraud is caus- ing concern to the U.K. National Computing Centre. It has already offered advisory services to companies who want to ensure that their equipment and the facts it is handling are safe and will remain so. It is now joining with the Institute of Chartered Secretaries and Administrators to run a series of seminars on the topic for senior management, data pro- cessing management, auditors and company secretaries as well as insurance specialists.

One task for the seminars is to identify the various ways in which losses can occur, particu- larly important at a time when the experts themselves disagree as to whether the threat is in- creasing or not.

This is one aspect of security

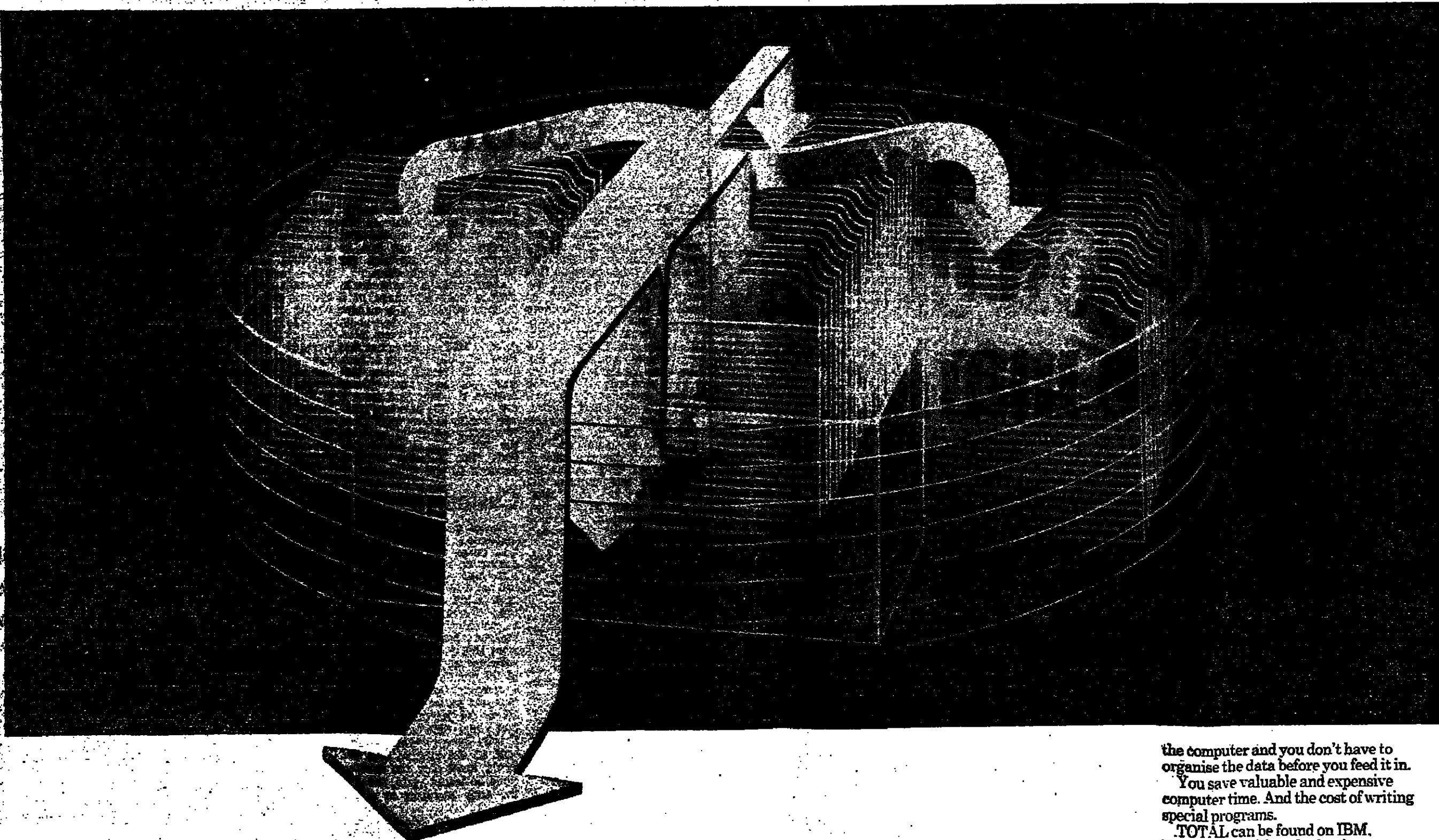
Pressure

Users may be more aware of the possible problems than the ever-changing array of civil servants responsible for spon- soring the industry. The emergence of a general com- puter users' group built around the various user pressure groups corresponding to the separate manufacturers and the National Computing Centre is of the highest significance.

It can exert far greater pres- sure politically than could the software industry, for example, when it existed as a separate entity and was pressing for more Government support in the form of contracts and for a definite statement of policy.

The consequences of the dis- appearance or merging of a large multi-national computer group at this stage of the game where computers are so highly integrated into the structure of many companies that a bad failure and loss of data can spell thousands of pounds of unforeseen expense are too severe to be ignored.

Ted Schoeters



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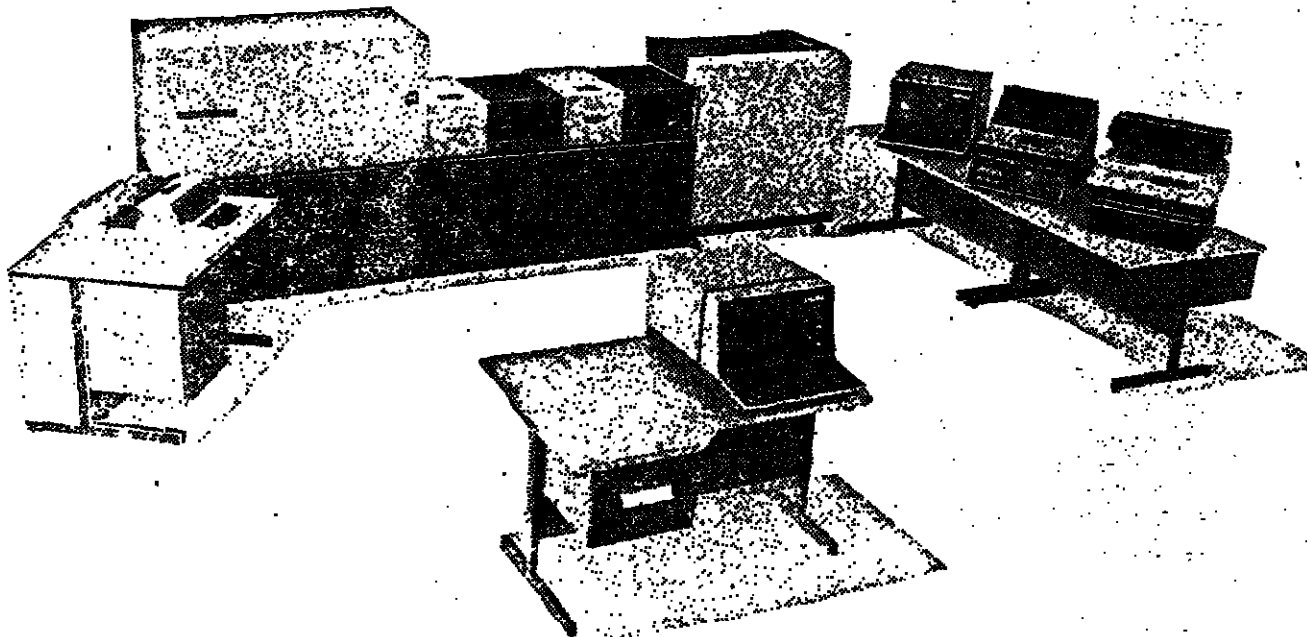
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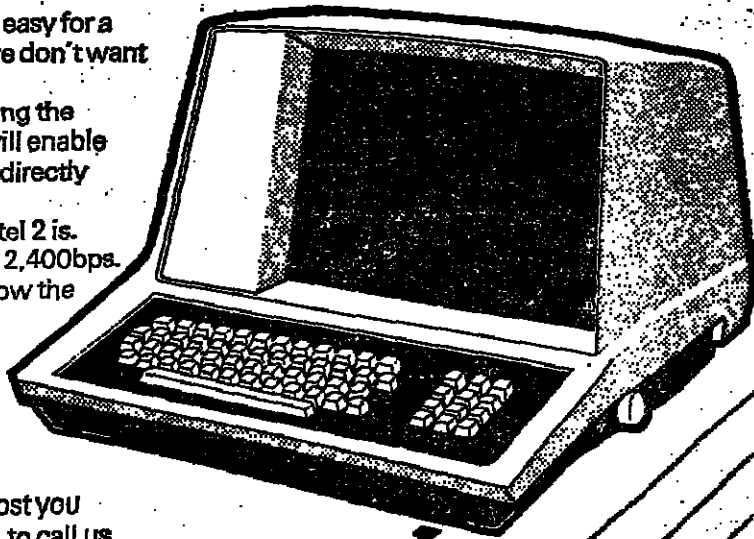
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DATA PROCESSING II

Savings from simulation

WITH THE computer's explosion in the field of business, commerce and government as a means of dealing with the transactions and statistics of modern life, its origins as a tool of the mathematician have tended to become somewhat forgotten. While its use by those who call it "simply a glorified adding machine" has made an enormous contribution to these fields in recent years, it can be seen that the most rapid strides recently have been nearer the original applications associated with the work of scientists and engineers.

There is an increasing use of computers in such fields as the high technology industries of nuclear power generation and aerospace, in ecological and environmental control studies, as well as in the process industries, to simulate through computer models a particular problem or variation and find a solution through numerical analysis.

Mr. B. V. Poulston, of CHAM (Consultation, Heat and Momentum Limited), a company that specialises in this work, sees the computer as playing a vital role in bridging the gap between the growth in scientific knowledge and the solid use of this knowledge in industry and business. The computer makes short cuts possible.

Feasible

For in order to make an operation economic and industrially feasible and cut down time and cost there must be some marriage between the scientist who provides knowledge of the basic natural laws, using the language of mathematics to express them; the applied mathematician who answers questions about how the laws can be used to produce a beneficial result and create methods of numerical analysis to give practical solutions; and the computer specialist who can give effect to the solutions.

CHAM was founded by Professor D. B. Spalding to provide this marriage in the specific area of flow patterns, a field in which there is a vast and growing knowledge about the physical laws involved. The

company's experts convert this knowledge into practical applications by developing computer programs which predict transactions and statistics of modern life, its origins as a tool of the mathematician have tended to become somewhat forgotten. While its use by those who call it "simply a glorified adding machine" has made an enormous contribution to these fields in recent years, it can be seen that the most rapid strides recently have been nearer the original applications associated with the work of scientists and engineers.

It is no surprise to find the advanced technology industries showing the initial interest. As Mr. Poulston says "Industries with a heavy research and development commitment and a high level of investment will readily accept this kind of approach."

In the area of flow patterns the complexities involved when a liquid or gas flow is carrying heat from the core of a nuclear reactor through tortuous pipes to chambers where the heat is extracted make accurate design a real challenge. When it is necessary to minimise loss and maximise safety under all operating conditions, CHAM has produced a set of computer programs that can plot these flow characteristics.

Similar programs can be written for another high technology customer, the aerospace industry. CHAM has been involved in the problems of obtaining efficient combustion in jet engines, and as Mr. Poulston points out, the jet engine is already at such an advanced stage in its development that what is being looked for is an improvement of perhaps half a per cent. "A purely engineering approach might not be man enough to extract the last ounce of efficiency," he says. CHAM's programs in this area avoid the necessity of exhaustive testing of full-scale combustion chambers on expensive test rigs.

One of the interesting aspects of the work is that many of the fundamental laws being applied are the same for widely different areas of work. For instance, the same fundamental laws of fluid flow that apply in the nuclear field can be found in the study of the movement of smoke and combustible gases in a burning building. CHAM programs are being used to analyse this, too, with the possibility of higher safety standards as an end result.

Similarly, in studying the flows in estuaries, lakes and rivers when liquid wastes or hot

water from power stations are discharged into them, specially tailored computer programs avoid the great expense involved in setting up small scale hydrological models of the actual situation, making the many detailed measurements involved, and then scaling up the results, using relationships of uncertain accuracy. In some cases, the computer programs can not only save time and expense in trial and error experimentation, but they can frequently reproduce situations more accurately than a test rig of some sort.

Mr. Poulston admits that outside the high technology industries, and the government authorities concerned with ecology, pollution and environmental control, there is a problem of acceptance. Although there are obvious applications, in the process industries for instance, there is a tendency for industrialists to show a reluctance to accept, at first sight, an approach stemming from the academic life. This is a problem that is being overcome, though, as the experience of the advanced technologists becomes known and as the potential savings in process study costs become apparent.

CHAM work in general industry so far has included contributions in the fields of glass making, smelting, and mining processes, and the company has hopes of doing some work in the chemical plant field soon. Few industrial processes can function without the flow of some kind of fluid, and heat. In the atmosphere of conservation of energy and high fuel prices more attention is being given to using that heat more effectively. In many processes, tests on a small scale are costly and of doubtful validity when scaled up. The uncertainty construction of large-scale versions often leads to protracted periods of modification and adjustment.

Now, however, computer programs such as those produced by CHAM can plot a detailed history of heat and fluid flow before a single piece of plant is made. By repeating the computer runs with changes in the

input conditions the effect of different designs can be explored with confidence, the results will be accurate.

CHAM began its work half a dozen years ago and there are now about 100 that can be individually tailored to meet the needs of a particular process or experiment. CHAM uses IUCS (LA University Computing Series) computers through a test at their headquarters, and two companies have a licence agreement on finding new users. Mr. Poulston, CHAM as the equivalent toolmaker in a factory, create a program for designer to use," he says.

Nowadays, the design involvement with the computer goes beyond the expert "test rig replacement" described so far, from the strides made in standing processes, and have been made in using computer to speed up the design steps involved in detailed design of plant, to producing the drawings needed for the workshop. Computer aided design helps calculate loads and so specifying materials and sections to satisfy given stress and in displaying complex mechanisms and pipe layout three dimensions so that can be detected.

The next stage, as expressed by Mr. Poulston, takes sequence through from standing the basic principles to designing the equipment to make use of and on to the resulting analysis as part of a computerised system of human trial and error. The computer has made the numerical prediction of the components of such systems interact with each other under the influence of external forces.

As technology, industry and society in general become more complex, an area of rapid progress which the computer will play a key role in the development of this kind of knowledge would be limited without

Hugh C

Second-hand goods

FOR THE potential computer user who wants the equipment on his own premises rather than using a bureau or sharing time, it has been generally considered for some years that the choice lies between the outright purchase, rental or lease of the latest machinery available that meets the need.

Despite the fact that another alternative in the shape of second-hand equipment has been open for some time there is still relatively little trade in used machines, when compared with the overall market. In view of the present economic situation, some significant cash advantages, and the technical developments in the field of plug compatible peripherals that upgrade the performance of the older machines, there appears now to be the prospect of a more vigorous market for second-hand equipment.

Computer Resale Brokers started the second-hand computer business in the U.K. as long ago as 1967, and other names like Reliance Computer Brokers have since joined a budding fraternity that has been doing steady business since that time. The biggest block of trade in used computers, though, is handled by the leasing companies who re-lease equipment when the original owner opts for the next generation model or changes his system requirements.

The leasing company with the biggest share of this cake is Leasco, and it is because of this company's special position vis-à-vis IBM that a sudden boost to the second-hand computer market has become particularly obvious of late. For now, when talking about this market, it is not only the new user squeezed for cash who is being discussed. Users of the very latest equipment are abandoning the new machines in favour of previous generation equipment. In other words, so far as Leasco is concerned, IBM 370 users are going back to 360 systems for both financial and technical reasons.

This introduces a new aspect into the second-hand computer market and it is a trend that manufacturers and leasing companies are watching closely. Since it is IBM's second user philosophy that is the cornerstone of Leasco's business, this new trend in second-hand equipment trade can best be illustrated by examining the IBM/Leasco relationship.

Leasco came into existence in 1966 to take advantage of a business situation in a manner that has become legendary. Potential computer users interested in IBM equipment at that time could buy for cash or rent. Under the rental system that was popular for obvious reasons, the user paid about 2 per cent of the purchase price per month, so that after about 50 months the renter had paid the full purchase price. Pay-back time actually averaged between 42 and 47 months.

When IBM launched the 370 range it was the subject of an aggressive sales campaign, and interest in it was immense, one survey showing that by the end of 1975 almost all 360 customers would be using 370s. In 1972, 1973 and even 1974 it looked as though this would happen, but then things started to change.

David Woodward says: "The main reason for this rethink was price. For 70 per cent of the users, the advantages of the 370 were marginal compared with the 360. But the price advantage of the 360 was not marginal, but a factor of two or three times cheaper."

Over 10 years, he says, there has been a five-to six fold increase in rental charges, whereas there is little or no price stability on the 360. In fairness, though, it should be said that the reason for the swing to second-hand previous generation equipment in this way, is not simply a matter of

price. As David Woodward points out, the migration to system 360 is prompted by technical developments in the 370 did so because of limitations imposed on users. For example, 3380 drives were not made available and the memory size of the 370 was limited, as were the communications controllers used. Since that time (370 introduced in 1971) manufacturers have made available on system 360 more powerful core manufacturers now offer system 360 memory much larger than 1. Together with the introduction of more advanced communications controllers this all that users who moved to system 370 three or four years ago achieve superior technical performance at a lower cost than the 360 introduced 11 years ago at very much lower prices. This "return to the previous generation" concept has brought the "fringe" activity second-hand computer into the centre of the computer marketing arena.

Hugh Col

Customer

Leasco originated out of the realisation that although IBM was, under the rental scheme, getting its money back in less than four years, the machines had not worn out and might well keep going for eight, ten, or even 15 years. Having found a computer customer, Leasco therefore bought the computer from IBM and leased it to the customer at less than the cost of the rental. If, for instance, a computer was leased for a four-year period at 20 per cent below the purchase price over that time, then Leasco would already have recovered 80 per cent of the original cost, and would know that the machine could be leased again, either to the same customer or a new one.

With Leasco salesmen going round "selling the dollar for 90 cents," as it was said at the time, business boomed and, for a time at least, IBM shares shot up. A key element in the Leasco success was the IBM second-user policy which is regarded as extremely fair and offers the same services in terms of maintenance and back-up as are given to purchasers or renters. The anti-trust laws of the U.S. ensure a continuation of this policy and so leasing customers are secure.

It was in the area of remarketing equipment at the end of a lease period that some leasing companies fell down. David Woodward, managing director of Leasco in Europe, says the

company "concentrated on expensive leasing with the same machine, and successfully re-marketed equipment as well."

However, some leading companies took no real steps in this direction, and when the IBM 370 systems started coming back in favour of the older 360 they ran into trouble.

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Hugh Col

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Removing the mystique

IT IS still no sign of a popular interest in using computers to explore general information handling capabilities but the man and woman in the office and the public in the home are becoming increasingly aware of the benefits of computers. Because all the habits of current computer-based systems are not good habits, of the newer familiarity is being made in using the idea that computers are only good for doing calculations — whether doing pay and tax, or the that engineers build think. If the public becomes convinced that computers are good handling text-based activities and visual ideas, then it is not too late for the researchers in computer applications to catch up with the

business of looking at a ticket on an airline was the earliest area that the public aware that the computer could be used for alphabetic displays and of television pictures that the data shown on the face could be derived from user stored files held in the computer. The main terminal in the CRT or the various of typewriter, but along way there have been some very special of end unit to hang on the Post Office lines which let the public to its boom-computer networks. By far the largest slice of special terminal development effort is in banking uses. Close to this market comes the store terminal market.

and after this comes the slow development of useful software to turn the CRT into a more versatile assistant in the office. The big makers of office equipment hardware have made tracks for the banks market. The out-of-office hours terminal is intended to be linked to the major processing centres of the banks and serve the customer for a range of transactions—deposit, withdrawal and special transfer of funds are all envisaged. The contrast from the present dumb cash issuing units would hardly be greater. The retail store terminal market poses bigger problems, both for the designer of the units (which must be cost-effective) and the public which is not likely to welcome retail terminals connected to their bank computers in any direct fashion. Yet such connection is at the heart of the economic

Effort In the current state of play the public need only keep a clear record with the accounts department or credit card agency to be sure that the terminal will respond positively when central records are checked. But this still means some processing effort to keep this central record closely tracking the current financial state of each customer. The current needs of both banks and stores mean that no further integration can be achieved outside of legislation that this will not happen under changed cost factors of computing as against other costs. For the office, however, the

public can be sure that there will be several transformations in techniques. Since most families have some member who works in an office this may directly infect the public with a close-up notion of what can be done through electronic logic. It is important not to use the word "computer" in this instance because it is not always certain that the suppliers of the new office text handling kit will want to connect too closely with the number handling entangled computer. Yet inside the versatile Xerox unit for automatic typing and word processing that was launched in the U.S. last year, and is due to make its debut in Britain shortly, is an 8,000 word capacity programmable control which is more powerful than many early computers. However, Xerox do not refer to the system as being computer-based.

An avowedly computer-based unit which is working in a typing pool of Unilever's organisational division stems from an internal specification. The implementation of the specification was given to Logica, a systems and software house, and the hardware was obtained mainly from Cosser Raytheon. But the excitement of this system—which basically uses typists to file their words into a computer store which then rips out a draft and when this is amended processes the changes and finally types a perfect script—rests in the delight the typists take in using it. Few aids to productivity in the office are thoroughly better to work with although most have some to recommend them. But the Unilever staff seem to enjoy taking a closer interest in the purposes

and background of their work. There may be an exceptional reaction, because the environment is quite special, mainly consisting of studies and reports on organisational matters. However, it seems certain that elements of Unilever's system advantages in controlling work, maintaining a high throughput, making quick and simple amendments, and undertaking changes and restructuring, will accrue in other environments. The urge to buy these "shared logic" typing systems, so-called because their central processor shares its time between eight or a dozen typists, will come from employers coveting the economic gains of the throughput. But the public's final view of the computer as an instrument for spelling and organising text may come from the pleasure of using this ability.

Research

Currently, the few research staff working in the most glamorous laboratories of the U.S. are the only real exploiters of the text handling capabilities of the computer when properly aimed at this target. Recently, Dick Hamming of Bell Labs revealed that a book he is writing on a topic of importance to electrical design engineers is in draft in a computer. The computer does all the hard work. Especially impressive in this connection is its ability to turn out perfectly organised script covering elaborate mathematical notation from rudimentary indications typed in at a normal keyboard. This current ability

simply puts on record what has been known, but not recognised, for some time—that the organising of technical scripts is a chore which wastes valuable research time. Current computers are already able to make a pay-off in this activity.

The students of advanced study in computer processes are continually trying to waste computer power in an effort to turn the machine into a useful assistant to people. Organising of texts is just one of the things that a computer can do quite well. The current continuing fall in costs of electronics implies that more power can be wasted to improve the working leverage of the creative and the comprehension of those who are struggling to be more creative.

The present actions carried out by computers are really rather trivial: a few calculations and steps carried out after careful thought by the writer of the steps. The idea is now to extend the aid given by the computer to people working in many areas of creative study and decision who need simple organising leverage, especially of text or visual material. That is pre-eminently the role fit for a machine. The low cost of small computers and terminals makes it feasible to plan products based on current products but enhanced with better software and to plan for these to be followed by reorganised electronics needing less expensive skill. The individual worker can stand from £3,000 to £7,000 investment in this work. This covers the new computer style.

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Bigger rewards in Europe

THE pessimism which followed the French abdication from the European computer market and the subsequent Philips statement on the atrophied Unidata, there are areas in which close co-operation is more than at any time in the past.

Five industries and the big mini and microcomputer markets are two of the important. Even in the at stringency, U.K. services have continued to expand activity at a rate which in spite of prevailing economic ices, is little short of amazing.

First quarter's 18 per cent growth over the same period, a far earlier comparison with the 21 per cent achieved between 1973 and 1974. It is a suspicion — there is no good reason to this — that this time more is the result of new sales of first order business — could end with a total of close to 100,000 or more traction in the present boom, worth of equipment sales this year. This year's earnings figure needs to be home since it is not much less than sales of U.K.-made equipment to the home and probably more than if U.K.-made data processors to the domestic market. This companies.

dependent

placed with the service companies. Since the end of the present downturn is variously predicted to come between the middle of next year or late 1977, services might just weather it without any great problems.

The same pattern could be repeated throughout Europe and as the major financial groups are already well aware of the potential of this growth industry there seems to be no obstacle to the formation of back-wide groups which are able to combine to use a common set of services with most of the major earnings from that quarter.

Indeed if bureaux are to be capable of taking on the biggest industrial jobs such as modelling the distribution network for a whole country of gas, power or whatever, or providing a complete structural analysis of a giant oil rig, their machine and software capabilities will have to be expanded—and this is not cheap to do.

There is an argument for bigger and more powerful groups with many capabilities, and the more that are joined with European backing, the more revenue will be retained in Europe. In a totally different area of operations lie the mini and micro-computers and while many observers believe Europe to have been beaten more thoroughly in the mini-computer battle than in mainframes this is not true—or need not be while the present mini-boom continues.

How long that this will be so is hard to say. Certainly many thousands of small companies are beginning to use or think of using mini-based systems for automated business operation where five years ago they would not have thought of such a move.

The European Committee for the computer industry, under Christopher Layton, could play a key role in drawing together all the Europeans with mini-computer expertise so the requirements for components, peripherals and supporting industries can be defined and the power of massive bulk purchasing applied.

This is an essential step now that it has become clear that European component manufacturers have shown they can match and even beat the big American producers in high technology devices—such as in the 5000-component chip Ferranti and Rascal have just jointly designed.

Proposals

It is essential that the Commission's latest proposals to the Council of Ministers should be implemented quickly and without chauvinistic or multinational strings. And among the proposals those relating to sales, computers and electronic components will be the easiest to implement.

How far U.K. support for these suggestions will be adopted as genuine by other nations is hard to say. It will be common knowledge in Brussels that two of Britain's major electronics companies have already opted out for expediency's sake in work on microprocessors and are taking U.S. licences, albeit from smaller organisations than the international component giants.

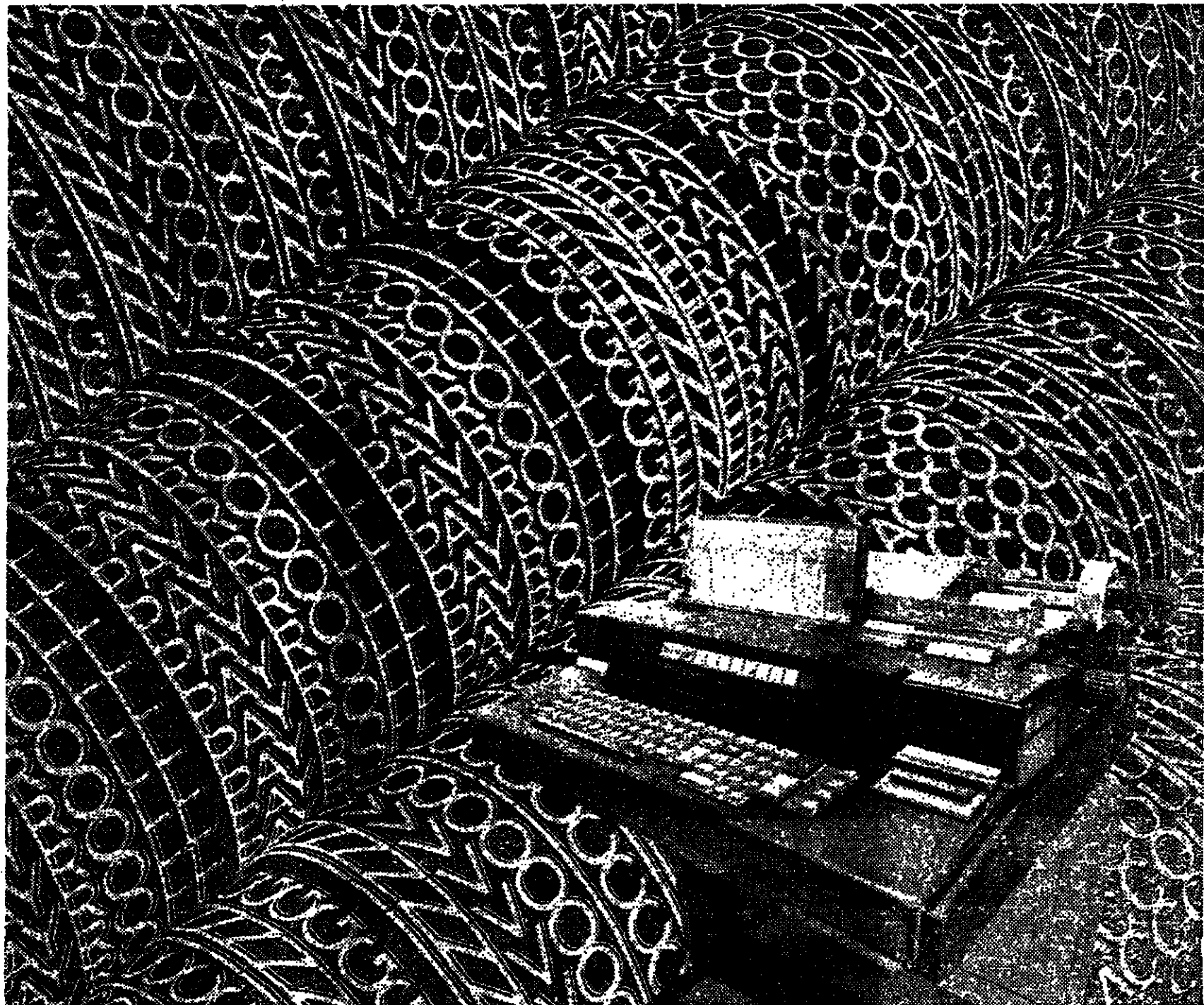
Whatever the reasons, remembering that only one U.K. company has a development programme in micros it may be as hard to convince potential European partners that U.K. concern for a European presence in this vitally important area is genuine as it was to convince General de Gaulle that Britain would not at some stage favour Commonwealth or U.S. links to the detriment of Europe.

Just how important the microprocessor side is can be seen from a glance at the list of U.S. car manufacturers and universities in America studying how to use them as controllers of virtually everything under the car bonnet, as to cut fuel consumption, and reduce exhaust pollution.

At present, General Motors and MIT's Innovation Centre appear to have gone further than anyone else. Application on a broad front can only be months away and a very large market is in development, despite the depressed state of the motor industry. The question is what part of it European suppliers will be able to claim.

Ted Schoeters

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THERE IS a theory that IBM's postponement of Future Systems, coupled with abandonment of some of the most revolutionary features of that design of computers, was almost entirely due to two major considerations, both on the software side of the data processing scene. One was the cost to IBM of writing all the new systems software the distributed processing concept of FS demanded, and the other was the high cost of conversion to users from IBM equipment of current design.

Whether these were the major factors or not will probably not be known until late in the present U.S. Justice Department versus IBM proceedings. In so far as users are concerned perhaps it is immaterial to the extent that they already have breathed a sigh of relief that there was no fourth-and-a-half generation just around the corner for them to cope with. But if distributed processing is the way we are all going to go, it could be a serious matter for the industry as a whole if the industry leader hangs back and handles the problems piecemeal. It is undoubtedly putting major strains on the other producers to have to keep shifting the emphasis of their development from one front to another at a time when they are all - except ICL - facing the need for radical updating now that the Abnidal LSI machine is showing what it can do. Even ICL will have to do some equipment modification if its machines are ever to converge with those of Siemens and Philips.

Undoubtedly, software is the key consideration in any debate on whether to increase power and facilities since it is now estimated that, over the majority of medium to large systems, the true software cost is of the order of 70 per cent of the total figure. Indeed it is no exaggeration to say that, only now, are real software costs being properly established even in companies whose accounting procedures elsewhere than in the computer department are a model of professionalism. To what extent this is a result of the continued lack of knowledge on the part of management of how machines and their software are put together and adjusted is not clear.

But lack of knowledge, either of the subject or of where to go quickly to obtain appropriate advice, breeds fear and evasion of responsibilities. On the other hand, too rapid promotion of which is accurate and able to be technically excellent staff can produce the same result for the opposite reason - fear because an earlier wrong decision is causing a catastrophic situation, general failure to understand

Senior management cannot abdicate responsibility any longer. The solution probably is a lot of hard work and a great deal more reading of dry but vitally important material.

To underline the point again - one would normally have expected a company such as Com-Share to be most concerned at the decision of Xerox Corporation and Rank Xerox to pull out of the manufacture of data processing equipment for general business applications. But, after admitting that the switch to other hardware (probably IBM) will mean "some expenditure," top management in this country goes on to say that the move is "only a little premature" in that so many customers and potential customers wanted access to the great applications software mountain designed to run on IBM machines. That awareness and better systems know-how than the makers of their existing hardware gives Com-Share their present confidence.

People forget only too easily that while the hardware cost of the 360 series is thought to have been about \$2bn, the total software associated with it could be around the \$10bn. The existence of this vast reservoir of work done by IBM users - and not really aware of it - is being rapidly swallowed up at prices which are only a fraction of what they should be, considering the scarce brainpower the purchased companies represent.

The sums coming forward for software support under the mark. ACTP scheme administered by the National Computing Centre are derisory compared with the tasks ahead.

One influential software house which is involved in a project

quite unique in computing - team design of complex systems in an interactive mode - sees a number of positive actions as being essential and most urgent. The first is to put teeth into the CCA, the central Government buying agency which can influence quite a large slice of spending, giving it power to guide software developments towards departmental needs.

The second is for the Government to accept that software is more important than machinery, and that while development costs are high, the price of not competing or merely importing are enormous - the outcry over LACES, TOPS and OPCON has not been forgotten.

There is a need to push very much harder in Europe where a lead could be taken out of the French Government's book. They may have lost their nerve on hardware but the software policies there are clear and hard and totally devoted to French survival. There is also a need for awareness at high level among negotiations of multinational parts of what software systems are available in the U.K. so that there is no repetition of costly work.

Much more attention must be paid to software tools which permit complex operating procedures to be set up in a fraction of the time otherwise needed and with far greater assurance of success.

Particularly enthusiastic support should be given to projects for the European Commission which aim at producing machine-independent routines, the City University one of the best known of which just before the up is the Genesys system of automated civil engineering component design originated at Loughborough, and now available on most of the major mainframes and expanding very quickly as users add generally applicable routines to the library.

Software costs demand further expansion of this and other types of "portability," as the jargon has it, and the subject will be aired at length in a two-day workshop to be held by Ted Sc

Database design

The design process. The same could be said of many databases built to aid the general process of decision-making by management. Until we know much more about the information needs and human intellectual processes which make up the crucial elements of decision-making for managers there will be very few databases held on computer storage which justify the investment in this application.

There are, however, many instances where facts which are known to be useful to executives in their business life are stored in database form. This means that threads have been placed in the structure of the data held. When a question is asked of the database the relevant strings are pulled and the elements of data linked to them emerge. For instance, if a supplier's identity is used as a line for questioning it is possible to establish all the relevant facts about that supplier, even though these activities affect many projects. Yet if the projects were used as a line, then these could be clearly examined without concern for the number of suppliers involved in any particular project.

contains the data essential to the construction of a thread, which can be used to link relevant data elements across numerous files.

Although the Leeds database design seems effective for local government purposes it has to be stressed that it contains no magic ingredient. It is probable that the expense of processing questions is greater than in some other databases where normal financial transactions have to carry the overhead of sorting out the pointers used to thread together the database. What is good about the Leeds example of database usage is that clear and conscious decisions were made about the balance of costs in running the database.

It happens that the pattern of activity in local government also suits the total separation of normal files and the map of cross-references because the updating of the normal files can be done outside of normal business hours and the nine-to-five period can be devoted to answering the questions of citizens and planners. Not all organisations are able to make such neat

Pointers

Plainly, the way these symbolic threads, or pointers, are used affects the usefulness of the database and the range of questions which can be asked of it. The complexity of the threading and cross-referencing involved also affects the time and cost of each transaction made to update the database. When the cost of managing and processing the threads that hold the facts in the database together are grossly excessive - then another story of database failure in computing is usually in the making.

One approach to coping with this problem of processing overhead is to separate the map of interconnections from the normal set of files used in the organisation. The supplier's account will thus be capable of being processed as quickly and cheaply as any other accounting file - for normal accounts data processing purposes. But the control map of the interconnections between the supplier's activities and the rest of the organisation's files is held separately and can be used to unravel the normal file when questions are asked which cut across a multiplicity of files.

This balancing of day-to-day transaction processing in conventional files against the need to interconnect those files for interrogation purposes is becoming accepted as a managerial yardstick in database design itself. An example of the separation of structural threads from the normal files is seen in the Leeds Metropolitan database system. Here the cost of normal financial data processing has been kept close to the familiar file handling costs. So the rates files are no more expensive to run than they would be in any other local authority.

Yet the facts in the rates files which affect the whole network of property questions which need to be answered to manage the area are available. There is a property "hub" file which

SPERRY UNIVAC
at
EUROCOMP
Heathrow Hotel, Sept. 23-24
and
DATAFAIR '75
Cunard International Hotel, London Oct.

EUROCOMP

SPERRY-GO-ROUND

On Tuesday, September 23, Sperry Univac's Stan Rodde leads a one-hour presentation to 13.40 in the York View Theatre. Lightheartedly tracing the development of computers to today, the presentation will also deal with communications in computing, some social uses and computers in education.

WHAT'S ON IN LONDON

A large stand space in the main foyer of the hotel will highlight demonstrations of the new Sperry Univac systems using a UNISCOPE 200 visual display unit fitted in as 11 at the company's London Software Development Centre. Featuring a "What's on" service to delegates, the RPS demonstrations are scheduled as follows:

September 23rd	10.30-11.30	15.00-16.00
September 24th	11.00-12.00	16.00-17.00
September 25th	11.30-12.30	16.00-17.00

TERMINAL DEMONSTRATIONS

The show for the first time in Europe is the company's new DCT 524 data communications. Demonstrations will be in full-on mode to several UK organisations and off-line tape cassette system. A second visual display unit, also equipped with a cassette, visitors. In addition to this, the company's powerful 1810 keypunch with built-in computer will be operational on the stand.

DATAFAIR '75

Presentation Room: 3102/3105 • Exhibition Area: Lower Campus Area No. 5 • Information Service: Exhibitors to Queen Mary St. Sperry Univac are providing an information service throughout Datafair '75 with details of all BCS events, presentations and demonstrations taking place at any given time. This will include information on all evening activities, both Society events and at the Under the Stairs, cinema, office and other places of entertainment, sight-seeing and access.

PROGRAMME

WEDNESDAY, 1st OCTOBER 12.30-14.15 RPS 1100 Demonstrations 15.15-16.15 Subject: Convention to Sperry Univac. Speaker: John Fletcher, Computer Control Systems Division.
THURSDAY, 2nd OCTOBER 09.00-10.00 RPS 1100 Demonstrations 10.00-10.45 Subject: Production Control/UNIS. Speaker: Peter Vickers, Divisional Manager, Product Planning, Perth Office 10.45-11.15 Question and answer forum on production control. Panel: Jack Smith, Sperry Univac European Division and Peter Vickers, Perth Office 11.15-12.00 Subject: Implementation Experience with DMS 1100 in Commercial Data Processing. Speaker: Don Bennett, Data Administrator, The Open University 14.15-15.00 Subject: Distributed Processing in Local Government. Speaker: Ray Hilly, Deputy County Treasurer.

Leicestershire County Council: 1 Subject: Time for Real-Time. Leslie Wilson, Head of Data, Southern Television 16.30-17.30 Demonstrations.
FRIDAY, 3rd OCTOBER 09.00-10.00 RPS 1100 Demonstrations 10.00-10.45 Subject: Convention to Sperry Univac. Speaker: Jim Kerr, Systems and Sales Manager, Scottish Council 11.15-12.15 Subject: GABRIEL the user. Speaker: Neville L. Director, Neat Systems Ltd 12.15-13.00 Demonstrations.

Full programme available on request from the Company's Publicity Team.

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Lost among the buzzwords

ED WHY A proposed government-funded study is taking so long, Dr. Shepherd, Canadian communications engineer, came up with the quote: "The problem is that the technology is changing at a faster rate than the government can keep up with it." He might have added: "And not the government." Indeed, he is in a situation now

anyone who is reasonably aware of the range of computer technology available is likely to feel like a stranger in a strange land. The subject is so vast and so rapidly changing that it is difficult to keep up with it. The use of some building bricks is dependent upon the use of a lot of others.

The first strand of our structure is basic mainframe technical change, which can perhaps best be summarised like this. In the 10 years since 1965, central processors, the computing element of a system, and the main storage associated with them have decreased in size a thousandfold for the equivalent processing power. Some of today's so-called calculators indeed now have a hand-held power equivalent to machines which were still in use during the 1960s, machines with which

controlling some operations in real time. Virtual memory will be standard, so will discs, and he may be considering mass storage.

What has been happening is that because of the pace of technological change, the product of the computer industry has been breaking down into component parts, which one can call building bricks.

The industry may still be dominated by one company, but even that company can now no longer market a straightforward compatible range of product. The use of some building bricks is dependent upon the use of a lot of others.

The first strand of our structure is basic mainframe technical change, which can perhaps best be summarised like this. In the 10 years since 1965, central processors, the computing element of a system, and the main storage associated with them have decreased in size a thousandfold for the equivalent processing power. Some of today's so-called calculators indeed now have a hand-held power equivalent to machines which were still in use during the 1960s, machines with which

some organisations did all their computing.

In the 10 years since 1965, CPU and main store speeds (measured in the ability to do additions) have increased a thousandfold, while the cost of CPU/storage operation has fallen from over 5 cents a million to less than one-tenth of a cent a million.

The effects of these changes have been marked. The best estimates now say that computing power available on the planet, even without taking calculators into account, is currently growing at more than 100 per cent a year.

It is this sheer decrease in cost and size, and increase in power and throughput capability which has led to this startling increase in new types of product and has led to strand two and all the buzzwords, which are seeking to describe the latest fashionable approach and product, and differentiate them from those already in existence.

Let us pick off a handful of the important ones. First micro computers. These are essentially small computers usually buried in other devices, which

they then control. The main use of the micro seems to be as a field computer collecting data, exercising a control function, and reporting back to a central computer what that needs to know for the organisation's own control purposes. The essential difference between a micro and all other computers is that hardly anyone will ever buy them singly. Micros are computing devices which generally are designed into a system like its sensors and other interfaces with the outside world, and the number required will be determined by the way the system is tailored.

The mini computer generally faces no such limitation. For the term mini in any case is now really meaningless, the terminology here has simply not caught up with reality. Some of today's so-called minis have a power equivalent to many of the conventional and generally thought to be much larger commercial computers. What distinguishes the mini as a class is that they do not generally compete across the board with the computer with which the user is more familiar: the main store extensions are limited, the software support is not targeted on the wide range of commercial operations, and the I/O facilities are much more limited than is the case with their larger brethren.

The wide acceptance of the mini and the growing acceptance of the micro now mean that it is possible to think in terms of "horses for courses" for they bring within range many operations which it was previously not economic to undertake, or even sometimes possible to do with computer systems of a decade ago.

Minis and micros may be confusing enough, for the LSI technology they call on has meant that there are now a proliferation of manufacturers at this end of the hardware business. But what is the user to make of distributed processing, upwards compatible, field convertible, and the like? This bunch of terms has become of more than academic interest since communications became inextricably intertwined with computing.

Distributed processing could not be satisfactorily possible without communications. Distributed processing is perhaps more talked about than practised and has much to do with management philosophy. Basically, those who are advocates of a non-centralised management philosophy will also be advocates of putting the power out to the operating units. Distributed systems have one advantage, they can often run on a lot less computer power than centralised ones. But the disadvantage is that even more than with most systems, they must be very carefully tailored.

Upwards compatibility and field convertible are really old slogans within computing. They have both become more than slogans in the 1970s, largely because communications has introduced to computing something that is new.

In the past, a large user could comfort himself with the thought that if he were dissatisfied with manufacturer X, he could always switch to another. The error increasing costs of software conversion, convert, means that users are now more and more locked in. They are locked in too by communications.

Large communications-oriented computer installations after a time begin to have one of the characteristics of a telephone exchange: people in the far flung outposts of the company's empire are linked in the last decade and dealing and depend on that computing with a few buzzwords, the

power being available. If it is framework can be created within which the sensible manager will look at his installation. He will want, whatever the philosophy of management, to be able to build up the applications, with minimal fuss. And he will want to do it as economically as possible. Cost is not unfortunately a computing buzzword.

The comfort he can take from what has happened to computing technology however is this: you can be almost sure of one thing, whatever it is, someone else also has a competitive product. There is more competition now than there was. Which is not to say that it is enough, but at least it is an improvement.

Rex Malik

Productivity and the cost of computing.

(From 56.7 pence in 1952 to 0.5 pence today).

Over the last quarter of a century, the cost of everything has gone up. Except the cost of computing. Although computers have become more and more useful as their speed and capacity have multiplied, their cost per operation has dropped sharply since the first commercial computer was installed less than 25 years ago.

For example, in 1952 it cost 56.7 pence to do 100,000 multiplications on an IBM computer. By 1964, those same multiplications could be executed for 5.4 pence. Today they can be done for 0.5 pence—less than 1% of the 1952 cost.

Yet the same period has seen a 252% rise in the Government's retail price index for Great Britain.

This astonishing increase in computer productivity stems from the technological advances—like miniaturisation of circuitry—which have boosted computation speed from about 2,000 multiplications per second in 1952 to more than 2,000,000 today.

This is the result of constant pioneering by hundreds of companies

in the data processing industry; pioneering that continues today. Over the years, IBM has invested over 6% of gross income in research and development.

Lowered computation costs make it practical to use computers in an ever-widening range of applications—with benefits like the saving of human lives through swift diagnosis, faster handling of insurance enquiries and better use of manufacturing resources.

Further reductions could bring about still greater benefits—benefits that will be seriously needed. Should the world's population increase by some 900 million people by 1985 as expected, there will be unprecedented demands for food, shelter, clothing, medicine, transportation and other necessities of life. The computer can help boost productivity in each of these areas.

IBM

Database

CONTINUED FROM PREVIOUS PAGE

In their processing, per-ity. However, all organisations ing to use a database can a time to setting it up ily. The cost problem is e only detail which has to me in mind, for databases to be audited like any com-ounting file. Clearly, the rs which make up the syn-threads in a database are le of being lost due to mis- the behaviour of the computer system. Checking a pointer needs to be re- is a reasonably straight- matter, but checking misleading pointers are existence is a daunting

Integrity

rigorous maintenance of integrity of a database is a t for continuing research. organisations have learnt ing able to audit files in ntional form is inadequate ng for giving a database a bill of health. One of the ms encountered in the use atabase for business deci- dding concerns the cross- ing of several normal

files by a single question. For when the answer to the question is given it is still very likely that this answer will be worth- less unless the particular states of all normal files are known and used to qualify the answer.

For instance, it may some- times be sufficient to find the state of a project at the end of a month by asking the question at the time. But unless all physical activities are recorded then the answer may be mislead- ing, and unless all financial pipe- lines are fully assessed the answer may be legally in- accurate for controlling the project. The difficulties encountered in obtaining a proper answer to the question exist without the construction of computer based databases. What is new is the danger that the apparent ease of obtaining answers may mask the spurious and illegal nature of some of these so-called aids to decision making.

Even where care is taken to ensure that auditing and legal complications resulting from the building of a database are pro- perly studied it is still true that much decision making is done them. The gains he enjoys may on rough information at present be counterbalanced by losses which may be better than appar-

ently complete data from a data- base.

This paradox comes about from the sensible interaction of reasonable people in systems which avoid computer file over- dependence. People working in an organisation make efforts to understand the purpose for which facts presented to man- agers are to form a background. The knowledge of this intent allows them to shape facts and to contact sources relevant to the overall purpose.

Dangers

Although there are dangers in the way people work together in business and government, there is little doubt that many of these dangers are balanced by the awareness of people that these pitfalls exist. When, however, a database is built it must change many of these subtle relation- ships. A German user of a data- base has said "I enjoy using the database. The knowledge gained makes me less dependent on other managers. I can be more objective in my dealings with the counterbalanced by losses and this assessment has still to



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to	Morning	\$155.0	51
valua-		(256.376)	52
Africa.	Afternoon	\$136.6	51
		(158.947)	52
14-1414	Gold coins		
over	(domestic)		
cent.	Krugers	\$1594.-1414	51
and		(162.-584)	52
ditional	New sov'gns	\$422.4	51
		(220.-314)	52
	Old sov'gns	\$422.4	51
		(220.-314)	52
	Gold notes		
	(U.S. 100)		
	Krugers	\$141.-145	51
		(258.-9)	52
	New sov'gns	\$22.-43	51
		(22.-43)	52



Sept. 22 1975	Bank Rates %	Market	
		Day's Spread	
New York	8	2,0780-2,0810	
Montreal	8 1/4	2,1200-2,1300	
Amsterdam	4 1/2	3,57-5,58	
Brussels	16	82-83,33	
Copenhagen	7 1/2	12,72-12,82	
Frankfurt	8 1/2	5,00-5,02	

Month	Number of people (millions)
Mar	1.0
Apr	1.2
May	1.8
Jun	0.5
Jul	1.5
Aug	1.0
Sep	1.2

SPECIAL DRAWING RIGHT RATES		
One SDR is equal to:	Sept. 22	Sept. 1
sterling.....	0.562267	0.564
U.S. dollar.....	1.18901	1.173
Belgian franc.....	46.7341	46.556
Deutsche mark.....	3.09028	3.0918

French franc	6.51637	5.28970
Italian lire	800.626	800.214
Japanese yen	354.210	352.556
Dutch guilder	3.17795	3.1762
Swedish krona	5.26330	5.2676

Values are for currencies against SDR as calculated by the International Monetary Fund in Washington.

	Brussels	London	Amsterdam	Zurich
30	6.62-65	5.50-51	97.24-23	97.19-18
38	2.408-489	21.720-727	58.54-53	58.63-62
1	11.364-394	9.456-480	157.115-116	156.74-75
11		83.10-11	14.59-75	14.64-65
4	82.25-83.05		5.64-65	5.65-66
799	6.7946-96	5.6405-55		89.61-62
77	6.816-8225	5.667-682	100.02-10	

London Gold	Dutch Guilder	W. German mark	Swiss franc
158-178	41 1/2-45 1/2	2.9%	

71-4	156-178	436-486	6-7
71-5	212-234	512-578	23-57
71-6	31-334	512-578	6-34
71-7	456-478	612-678	44-478
71-8	53-6	512-578	57-598

51-72 per cent.; seven days' notice
 three months 73-8 per cent.; six months
 years 81-84 per cent.; three years 81-8
 five years 91-104.

quoted for London dollar certificates of
three months 77-73½ per cent.; six months
77-73½ per cent.; and nine months 77-73½
per cent. U.S. dollars and Canadian dollars, and
sterling.

AUSTRALIA

Sept. 20	Aug. 9	—
Atrow Australia	10.66	
Adelaide Brighton Cement Co.	70.90	-0.65
Alliant Mac-Fab-Trig. Indus.	11.53	+0.25
Amulco Exploration	10.60	-0.17
Amport Petroleum	10.45	
Asac. Minerals	72.59	-2.85
Asac. Pulp Paper S.I.	10.80	
Asst. Con Industries	11.34	+0.04
Asst. Foundation Invest.	10.50	+0.22

Inst. Oil & Gas	10.91	+0.01
Blue Metal Int'l	10.00	
Loughville Copper	10.90	-0.01
Broken Hill Proprietary	10.84	
H. South	17.38	+0.16
Carlton United Brewery	17.65	+0.10
J. Cole	12.10	-0.10
HSK (81)	17.25	-0.05
Inst. Gold Fields Inst	14.65	+0.06
Container (81)	12.70	+0.05
	11.48	

United Riottinto	11.46	
United Australia (25c)	11.85	-9.86
United Rubber (50)	10.90	
SCOR	10.80	
United South Gold M (50)	10.52	
2. Industries	11.72	+0.04
A.T. (25c)	12.56	+0.03
Property Trust	10.68	+0.07
Min	11.15	
Mineral	10.57	+0.01
Mineral	11.80	+0.01
Mineral	11.80	

Australia	11.30	
A.C. Holdings	11.42	
er-Copper	10.92	+0.81
	10.35	
ines Industries	11.13	
es (David)	11.09	+0.81
State Exploration	10.36	
M Holdings	12.25	+0.85
er Exporters	11.63	+1.02
	11.15	
obols International	10.40	+0.81
ch-Brokers		

... ..	11.56	
... ..	10.70	+1.4
... ..	10.20	
... ..	10.64	
... ..	12.33	+0.70
... ..	10.43	+0.41
... ..	10.24	+0.01
... ..	12.40	
... ..	11.80	+0.07
... ..	10.92	
... ..	11.63	-0.01

Sept. 22		*Price Yen	+ or -	Div. %	Yld. %
1 Glass	200			16	5.6
2 Nippon Print	300	9		12	5.0
3 Photo Film	480	5		16	1.7
	440			15	2.2

... ..	138	-1	12	4.3	Banco
... Motors...	519	+6	18	1.7	Banco
... ..	849	+2	12	1.7	Banco
... Airlines...	155	-2	8	2.6	Indu
... ..	687	+3	8	2.6	Banco
... ..	370	+2	15	2.4	Banco
... ..	3.8	-2	15	2.4	Banco
... ..	475	-10	20	2.1	Banco
... ..	415	-1	18	1.9	Banco
... ..	112	+1	12	5.4	Banco
... ..	460	+3	13	1.6	Banco

Co.	408	2	14	1.7	Banco
Koshi.	380	16	20	2.6	Banco
Motor.	328	10	16	2.4	Banco
ru.	1,455	33	23	0.9	Almos
	2,573	40	30	0.6	Babob
Marine.	282	6	11	2.0	CTC
Chemical.	108	4	15	3.6	Credit
	148	-	15	6.4	Drum
Marine.	109	-7	11	1.1	Unag
Elect. Pow.	591	-2	8	5.9	Eners
	101	-	12	5.9	Eners

Notes	139	15	5.4	Exp
Source Nikko Securities Tokyo	609	-12	1.5	Feco
STOCKHOLM				Financ
Sept. 22	Price	+ or -	Div. Yld.	Financ
	Krögar		Kr. %	Gal
ral BKMO	138	+4	6	Hydro
aso	104		8	Mercur
			3	Motor
			3.2	Olarra

188	+2	5.5	2.9	Petrol
179	+5	10	4.8	Savory
240	+5	10	4.8	Seal
348	+8	10.5	3.2	Servise
207	+3	11	3.2	Servise
185	+3	4.5	2.7	Telstar
209		6	2.7	Tabacco
187	+1	6	3.2	Unio
126	+1	11	3.2	Unio
193	+1	14	7.5	Unio
178				Unio

Domino	170		8	4.6
Domino	182	+4	9	4.9
Domino	187	-5	9	3.5
Domino	248	+1	8	3.5
Domino	166	+3	5.6	5.5
Domino	190	+2	14	7.5
Domino	188.5	+0.5	-	0.5
Domino	142	+2	5.5	5.5
Domino	155		4.5	3.5

	Price Kroner	+ -	Div. %	Yld. %	Grand at div. rate.
Privatbank	103		9	3.7	and/or
Bank	114		10	3.8	rates.
Bank	114		10	3.8	Indian
Bank	480	10	30	4.1	and yield
Bank	112	+1	10	9.0	cost of
Bank	347.50	+10	12	2.0	holders

92%	+8%	4	4.8	script less
142.5		10	7.0	increased

0. scribbles. c. Cents.
 pending. Rights and/or
 or share. f. France.
 Assumed dividend after
 this issue. h. After
 tax free. i. France inc.
 p. Nom. q. Share split.
 r. Special payment.
 Unofficial trading. s. M.
 t. Member pending. u.
 v. d. 2. Seller. z. Ass.

92%	+8%	4	4.8	script less
142.5		10	7.0	increased

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FT SHARE INFORMATION SERVICE

BRITISH FUNDS

High	Low	Stock	Price	Change	Yield
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		
97.4	97.4	Shorts (Lives up to 10 years)	10.25		

BANKS AND HIRE PURCHASE

High	Low	Stock	Price	Change	Yield
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		
100.0	100.0	Bank of England	10.25		

BUILDING INDUSTRY—Continued

High	Low	Stock	Price	Change	Yield
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		
100.0	100.0	Building Industry	10.25		

DRAPERY AND STORES—Continued

High	Low	Stock	Price	Change	Yield
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		

ENGINEERING—Cont.

High	Low	Stock	Price	Change	Yield
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		
100.0	100.0	Engineering	10.25		

ELECTRICAL AND RADIO

High	Low	Stock	Price	Change	Yield
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		
100.0	100.0	Electrical and Radio	10.25		

CHEMICALS, PLASTICS

High	Low	Stock	Price	Change	Yield
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		
100.0	100.0	Chemicals, Plastics	10.25		

BEERS, WINES AND SPIRITS

High	Low	Stock	Price	Change	Yield
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		
100.0	100.0	Beers, Wines and Spirits	10.25		

FOREIGN BONDS & RAILS

High	Low	Stock	Price	Change	Yield
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		
100.0	100.0	Foreign Bonds & Rails	10.25		

AMERICANS

High	Low	Stock	Price	Change	Yield
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		
100.0	100.0	Americans	10.25		

BUILDING INDUSTRY, TIMBER & RAILS

High	Low	Stock	Price	Change	Yield
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		
100.0	100.0	Building Industry, Timber & Rails	10.25		

CINEMAS, THEATRES AND TV

High	Low	Stock	Price	Change	Yield
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		
100.0	100.0	Cinemas, Theatres and TV	10.25		

DRAPERY AND STORES

High	Low	Stock	Price	Change	Yield
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		
100.0	100.0	Drapery and Stores	10.25		

ENGINEERING, MACHINE TOOLS

High	Low	Stock	Price	Change	Yield
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		
100.0	100.0	Engineering, Machine Tools	10.25		

FOOD, GROCERIES, ETC.

High	Low	Stock	Price	Change	Yield
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		
100.0	100.0	Food, Groceries, Etc.	10.25		

HOTELS & CATERERS

High	Low	Stock	Price	Change	Yield
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		
100.0	100.0	Hotels & Caterers	10.25		

سك من الأصل

INDUSTRIALS—Continued

Stock	Price	Chg	Vol	High	Low	Open	Close	Settle
Aluminium	12.10	0.00	100	12.10	12.10	12.10	12.10	12.10
British Steel	10.50	0.00	100	10.50	10.50	10.50	10.50	10.50
ICI	15.00	0.00	100	15.00	15.00	15.00	15.00	15.00
Imperial Chemical	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Johnson & Johnson	18.00	0.00	100	18.00	18.00	18.00	18.00	18.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00

PROPERTY—Continued

Stock	Price	Chg	Vol	High	Low	Open	Close	Settle
British Land	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Imperial Chemical	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Johnson & Johnson	18.00	0.00	100	18.00	18.00	18.00	18.00	18.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00

TRUSTS, FINANCE, LAND

Stock	Price	Chg	Vol	High	Low	Open	Close	Settle
British Land	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Imperial Chemical	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Johnson & Johnson	18.00	0.00	100	18.00	18.00	18.00	18.00	18.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00

TRUSTS—Continued

Stock	Price	Chg	Vol	High	Low	Open	Close	Settle
British Land	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Imperial Chemical	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Johnson & Johnson	18.00	0.00	100	18.00	18.00	18.00	18.00	18.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00

MINES

Stock	Price	Chg	Vol	High	Low	Open	Close	Settle
British Land	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Imperial Chemical	12.00	0.00	100	12.00	12.00	12.00	12.00	12.00
Johnson & Johnson	18.00	0.00	100	18.00	18.00	18.00	18.00	18.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00
Roche	14.00	0.00	100	14.00	14.00	14.00	14.00	14.00
Sandoz	16.00	0.00	100	16.00	16.00	16.00	16.00	16.00
Novartis	17.00	0.00	100	17.00	17.00	17.00	17.00	17.00

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Industry aid for arts to be studied

BY ANTONY THORNCROFT

THE PRIME MINISTER has asked his closest economic adviser, Mr. Harold Wilson, to investigate the prospects for raising more money for the arts from industry, commerce and the trade unions. Mr. Lever will make a "thorough assessment" in consultation with Mr. Hugh Jenkins, Minister for the Arts.

The scope of the inquiry is very wide and does not exclude the effect of taxation, which might mean tax relief for companies which aid the arts, and some easing of VAT. The controversial impact of the Wealth Tax on works of art will also be included. One possible source of revenue that might be examined is the extra taxation on commercial television companies, which provides the Exchequer with a few million pounds a year.

Although the Government increased its grant to the Arts Council by 20 per cent this year, to £26.15m, to ensure that expenditure on the arts kept pace with inflation, a number of leading artistic institutions in the country face a financial crisis. The Royal Shakespeare Company, for example, has been examining whether it can continue at its London home in the Aldwych, and the National Theatre, due to open next year, faces problems.

Apart from its help for the Arts Council, the Government also goes towards maintaining and improving museums, art galleries, and such organisations as the British Film Institute to a grand total of tens of millions. But to date industry contributes little more than £400,000, much of it spent in small sums to local artistic activities.

By far the major helpers of the arts are the tobacco companies. W. D. & H. O. Wills helps to finance recordings by the London Symphony Orchestra to the tune of about £20,000 a year, and the Peter Stuyvesant Foundation contributes over £10,000 to the same orchestra. John Player helps the Bournemouth Symphony Orchestra and international cello competition in Bristol.

Other leading supporters include the Legal and General insurance company, which is contributing £60,000 over three years to help the Royal Philharmonic Orchestra. Most of the money goes to the four major London orchestras, and the theatre, opera, and ballet, much more expensive enterprises, have done less well in attracting industrial cash. Their first aim from the inquiry may be abolition of VAT on box office receipts.

Ford wants \$100bn. energy authority

BY PAUL LEWIS, U.S. EDITOR

WASHINGTON, Sept. 22

ON THE eve of this week's crucial pricing decision by the oil-exporting nations, President Ford today proposed a new \$100bn. Government corporation to speed development of America's domestic energy supplies and make the country independent of the OPEC cartel by 1985.

The President told a meeting of building union representatives in San Francisco that the time had come for action to reduce America's reliance on foreign energy suppliers and that his plan for a new Energy Independence Authority would erase all doubts about the country's ability to respond to OPEC's challenge.

Although the President gave little hint of how the authority would function in any detail, its prime purpose would be to channel resources into development of new energy supplies that private industry found too risky or expensive to back on its own.

The President described it as "a catalyst and stimulant, working through, not in place of, American industry."

White House officials have said it would probably have an initial capital of some \$20bn, provided by the U.S. Treasury, supplemented by funds raised through the sale of Federally-guaranteed bonds to the public.

The authority would either finance worthwhile energy projects directly, or guarantee loans to private industry.

After the European Security Conference in Helsinki in early August, there was some hope that progress would be made this autumn. Both President Ford and Soviet Premier Brezhnev, as well as European leaders, suggested in their Helsinki speeches that MBFR would now become the main focus of East-West détente.

Contrary to some earlier reports, the West has indefinitely shelved any idea of seeking to break the deadlock by offering to include tactical nuclear weapons in the cuts.

The allies have now decided to stick to their original negotiating position which calls for larger cuts in Warsaw Pact forces with the aim of bringing both sides down to a common ceiling. This position has been consistently rejected by Eastern Europe.

There has been stalemate in the talks officially known as the negotiations on Mutual and Balanced Force reductions (MBFR), since they opened in October, 1973.

And penalise those like the U.K. whose currencies have moved downwards.

Mr. Joel Barnett, Chief Secretary to the Treasury, told the House of Commons that the strongest reservations about the proposal. Such a changeover was in any case far too late to incorporate in the 1976 Budget, he said, a point which even West Germany seemed tacitly to accept.

Privately, British officials have repeatedly made it clear that the U.K. will not hesitate to veto the proposal if the other countries continue to press it.

Early economy measures approved by the Council included drastic cuts in proposed allocations for research and energy projects, as well as in spending on personnel and administration.

Later, the Ministers were refused to reduce the figure for the regional fund, once one country whose exchange rates have floated upwards since 1971.

Officials said the U.K. could accept reduced allocations from the regional fund next year because the Treasury projects to take all the money that is due. The final amounts received by the U.K. in the long run would not be affected, they said.

Earlier the Ministers agreed on a complicated formula aimed at ensuring that the European Parliament retained the right to vote modest extra increases in discretionary Budget spending, regardless of how much it had been raised by the Council. They also adopted a supplementary Budget making a further 384m. units of account available for farm policy spending this year. Of this, 200m. units were additional expenditure, and the rest transferred from other Budget headings.

Continued from Page 1

Bombs

This morning the moderate Alliance Party unveiled its own proposals, principally that the Convention should consider a form of regional government based on a committee system similar to that used by most local authorities. This, Alliance believes, would go some way towards overcoming Loyalist refusal to admit "Republican" members of the SDLP to Cabinet rank.

But in the same way that the political wrangling of recent weeks shifted attention away from the security situation, with a marked drop in the recent level of violence, it now seems probable that the worsening security problem will equally eclipse the politicians. Certainly, it will harden the attitudes of both sides when the Convention meets once again in eight days' time.

raised by their backers. Over the coming decade, President Ford said, the U.S. would need to invest \$800bn. in new sources of energy if it was to become independent of outside suppliers.

While most of this money would come from private sources, the Energy Independence Authority would accelerate the perfection of new energy producing technologies, particularly those based on coal, nuclear power, and solar and thermal heat.

The proposed new Energy Authority requires Congressional approval and represents President Ford's latest attempt to break the deadlock between executive and legislature over energy policy, which has already left the U.S. doing less than most other major consumers to reduce its reliance on the OPEC countries.

Yesterday, the Administration agreed to raise its controversial 60 cent-a-barrel tariff on imported oil and heating oil—and hinted it would also abolish the much more unpopular 32 a barrel tax on foreign crude, if Congress would agree to phase out price controls on domestic oil.

However, in the present inflationary environment, the prospects for this piece of energy-conserving legislation remain as obscure as ever.

In domestic political terms, President Ford's decision to support the idea of a National Energy Authority appears to be an important victory for Vice-President Rockefeller in his efforts to increase his influence over the Administration's domestic policy.

The original idea was his and he has been pushing it hard in recent weeks with active support from Mr. Frank Zarb, Federal energy administrator.

However, Mr. William Simon, Treasury Secretary, and Mr. Alan Greenspan, chairman of the President's Council of Economic Advisors, are reported much less enthusiastic.

Mr. Simon's distaste for Government intervention of any kind in the economy is well known and he must also be concerned about the pressures of a new authority will place on an already tight credit market.

The Right wing of the Republican Party is also unlikely to be enthusiastic about the emergence of a new Government-created public utility.

The fact that Mr. Rockefeller is its chief backer will only make things worse.

However, the Democrats in Congress have been pressing for the Government to play a bigger role in the energy field for some time, and Senator Jackson has proposed a National Energy Production Board which has similarities with President Ford's idea.

At the moment, it is noted that neither the Americans nor the Russians are showing much interest in the subject at the highest political level which—especially in the Soviet case—is the only level that matters.

The NATO allies will thus use the forthcoming MBFR session to repeat their well known negotiating position that NATO ground forces in Central Europe are heavily outnumbered by those of the Warsaw Pact.

The Warsaw Pact, they argue, should therefore accept phased, but asymmetrical, cuts with the aim of bringing both sides down to a common level.

NATO figures show 777,000 NATO ground forces and 6,500 tanks, against 825,000 Warsaw Pact forces and 18,000 tanks. These figures have not changed substantially since negotiations began.

THE depth of the U.K. economic recession is highlighted by figures from the Central Statistical Office indicating a 2½-3 per cent drop in Gross Domestic Product in the second quarter of the year.

These figures are based on output data, and are thought to provide the best indication of short-term movements out of the three methods of measuring the level of GDP.

Output figures and the related domestic product statistics indicate there has been a very sharp downturn in the past few months. Recently published statistics for industrial production (which accounts for some 44 per cent of the output-based GDP index) showed it had been falling at a rate unprecedented since World War II, with a 31 per cent drop in the first three months of 1975.

All three measures of GDP are now back below their 1973 base (seasonally adjusted at 1970 prices). The last time this happened was in the first quarter of 1974 under the influence of the three-day week.

The setback in the second quarter, moreover, follows a period of relative stability, with the seasonally adjusted output measure of GDP showing little change between the second quarter of last year and the first quarter of this year.

The figures therefore underline the suddenness with which the economy has slipped into recession, showing a considerably smaller decline in activity than many other industrialised countries.

The drop has been much sharper than was anticipated at the time of the Budget.

Between the second half of last year and the first half of 1975, the average of the three measures (regarded as most reliable for longer-term comparisons) dropped by 2½ per cent. This compares with earlier official estimates anticipating a fall of less than 1 per cent.

Recent rises in the level of unemployment, prompting yesterday's promise of action to counter the trend, have reflected appreciation.

Rank Xerox prices to rise

BY ROY LEVINE

RANK XEROX is to increase rental prices on its copiers and duplicating machines by 10 per cent. New customers will pay the higher prices from October 1, but existing customers will have until March 31, depending on contracts.

The company's policy contrasts with that of its U.S. parent, Xerox Corporation, which yesterday announced immediate cuts in its selling prices and a drop in rental prices of about 10 per cent, as from January 1 next year.

The pricing strategies of the two companies are completely different and are calculated independently. The last increase by Rank Xerox was in December, 1974 and was also 10 per cent.

Unlike the U.S. company, Rank Xerox does not sell its products but offers them only on a rental basis. Its revenues are therefore determined by copy volume on existing machines and by new installations.

According to Mr. Brian Nicholson, director of operations at Rank Xerox, copy volume in the U.K. has remained "remarkably buoyant" despite the recession. Revenues from this source have not fallen below last year's level.

But there had been a decline in demand for new machines, he said. The decline in revenue from new installations had dropped only marginally, because of the trend towards more expensive machines.

Guy de Jongh, writes from New York: Xerox cut the U.S. purchase prices of many of its copiers and duplicators yesterday, and announced plans to lower rental charges to most of its American commercial customers from the beginning of next year.

Mr. Peter McCollough, Xerox's chairman, said these decisions were taken both to comply with the terms of the company's recent anti-trust settlement with the Federal Trade Commission and to improve Xerox's competitive position.

A central feature of the new rental schedules is elimination of "package" pricing arrangements prohibited by the FTC settlement, through which Xerox offered commercial customers leasing several of its machines a special bulk discount.

The new pricing plans still allow for discounting large-volume users, but in future such customers will be billed for each machine individually.

gold at around its present price the immediate impact on a marginal mine like Stibbington would be to double its earnings, although quality mines would barely be helped.

The margins, however, showed no signs of strength yesterday. Costs are rising at roughly 30 per cent a year, and there is a danger that the devaluation will feed back into sentiment in the "bullion" market, which slipped back a little further yesterday. The new exchange rate has only bought a brief respite for the high-cost mines, which remain vulnerable.

Although the devaluation was clearly undertaken to help the gold mining industry, the other South African primary producers, with more stable product prices, emerge as the real beneficiaries. De Beers is an obvious example, together with the platinum and Messina.

Among the industrials, however, the implications are by no means positive, given the generally low rate of exports and overseas earnings. There is

Brief respite for gold mines

THE LEX COLUMN

Index rose 1.1 to 344.7

The first day of the account saw the 30-Share Index falling to breach the 350 mark, but the market was relatively heavy, and the index has turned back from around this level twice already this year. Gold shares recovered some of their early falls but the index still closed at a new 1975 low. Stripping out the dollar premium content, this means that gold shares have made no progress at all since the end of 1973.

The rapid devaluation will effectively push the mines' average revenue up to some extent around the level in the second quarter—\$463—and well over half their costs are in pence. Greenwell calculate that with

December—has appear reduced. See also Page 20-m

Booker McCone, from sugar and the fallen by just over 1975 engineering division, has suddenly emerged as a major profit earner. Major profit earner, sugar machinery deliveries, treble together turned earnings by nearly £1m and a loss elimination in 1975, group earnings up from £1.9m to £2.1m.

There is more to come, even though the year is going further over the year. The engine performance can appear maintained. And production side has come up with yesterday's paying export level share price was almost bound to register some disappointment. Group interim profits are 8 per cent ahead at £3.97m, pre-tax, the forecast is for some growth overall and the shares eased 3p to 144p having risen a full 60 per cent over the previous five weeks.

The construction sector has led the latest market rally with a rise of a third since mid-August, and the narrowness of Laing's (closed-company) share market is presumably part of the answer to its recent whirlwind performance. But the earnings outlook for 1976 is steady at best, and it is now hard to foresee anything but a period of relative weakness ahead for a market capitalisation of £63m. In the U.K., which provides roughly 60 per cent of total trading profits—Laing is still 50 per cent tied to public sector construction, mostly non-housing, and its North Sea operations remain essentially longer-term earners. Against that overseas construction looks capable of providing a steady cushion, while U.K. property income is now up to a fifth of total profits, before depreciation.

Meantime, the prospective yield is 2 per cent, and likely to be covered around five times this year, and Laing's balance sheet gearing—debt was just an eighth of shareholders' funds in

John Laing

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Burmah Oil

R. J. Reynolds is a potential buyer of the North American gas interests, but it confirms that the group had had a May Burmah was that three companies showing serious interest in a deal might as early as July. The Bank will doubt the market cap of £53m, at 37p, is too speculative, and its statement is due on

Weather

U.K. TO-DAY
CLOUD and rain will spread slowly southward from Scotland, but Southern areas will mostly stay dry.

London, South England, East Anglia, Midlands, E. England, Channel Isles, S.W. England, S. Wales

Rather cloudy but mainly dry. N. Wales, N.W. England, Lakes, N.E. England

Cloudy with occasional rain or drizzle at first becoming brighter. Borders, Edinburgh, Dundee, Aberdeen, S.W. Scotland

Cloudy with occasional rain or drizzle early then bright periods. Central Highlands, N.E. Scotland, Argyll, N. Ireland

Sunny intervals and scattered showers. Wind strong westerly. Max. 14C (57F).

Outlook: Dry at first, but rain spreading from the West to most districts later.

Lighting up: London 19.29; Manchester 19.38; Glasgow 19.46; Belfast 19.53.

BUSINESS CENTRES

HOLIDAY RESORTS

Algeria S 23 77 Jersey F 16 57
Athens S 23 78 Las Palmas F 16 58
Baku S 23 79 Las Vegas F 16 59
Barcelona S 23 80 London F 16 60
Bellevue S 23 81 Madrid F 16 61
Birmingham S 23 82 Moscow F 16 62
Bristol S 23 83 Munich F 16 63
Buenos Aires S 23 84 New York F 16 64
Cairo S 23 85 New Zealand F 16 65
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Hong Kong S 23 96 Vancouver F 16 76
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EEC Ministers start major pruning operation on costs

BY REGINALD DALE, COMMON MARKET CORRESPONDENT

BRUSSELS, Sept. 22

EEC MINISTERS began a major pruning operation to-night on Brussels Council proposals for an 8bn. unit of account (£3.4bn.) Community Budget for next year. As the Council headed into a late night session, about £80m. had been lopped from the less-important Budget headlines before discussion started on the major items such as the Common Agricultural Policy and the Regional and Social Funds.

West Germany, which wants to knock at least £380m. off the total, was taking the strongest line in favour of economy measures. But all nine countries, including the U.K., were in a cost-conscious mood.

Bonn, Holland and Denmark, with Belgian support, called for changes in the definition of the Community's unit of account to reflect market exchange rates. The move, widely expected, would tend to work in favour of countries whose exchange rates have floated upwards since 1971.

And penalise those like the U.K. whose currencies have moved downwards.

Mr. Joel Barnett, Chief Secretary to the Treasury, told the House of Commons that the strongest reservations about the proposal. Such a changeover was in any case far too late to incorporate in the 1976 Budget, he said, a point which even West Germany seemed tacitly to accept.

Privately, British officials have repeatedly made it clear that the U.K. will not hesitate to veto the proposal if the other countries continue to press it.

Early economy measures approved by the Council included drastic cuts in proposed allocations for research and energy projects, as well as in spending on personnel and administration.

Later, the Ministers were refused to reduce the figure for the regional fund, once one country whose exchange rates have floated upwards since 1971.

Officials said the U.K. could accept reduced allocations from the regional fund next year because the Treasury projects to take all the money that is due. The final amounts received by the U.K. in the long run would not be affected, they said.

Earlier the Ministers agreed on a complicated formula aimed at ensuring that the European Parliament retained the right to vote modest extra increases in discretionary Budget spending, regardless of how much it had been raised by the Council. They also adopted a supplementary Budget making a further 384m. units of account available for farm policy spending this year. Of this, 200m. units were additional expenditure, and the rest transferred from other Budget headings.

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Continued from Page 1

Bombs

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But in the same way that the political wrangling of recent weeks shifted attention away from the security situation, with a marked drop in the recent level of violence, it now seems probable that the worsening security problem will equally eclipse the politicians. Certainly, it will harden the attitudes of both sides when the Convention meets once again in eight days' time.

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